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Relativistic MR-MP Calculations of the Energy Levels and Transition Probabilities in Ni- to Kr-like Pt Ions

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Relativistic MR-MP calculations of the energy levels and transition probabilities in Ni- to Kr-like Pt ions

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Abstract

Ni- to Kr-like Pt ions have been studied by relativistic Multi-Reference Møller-Plesset many-body perturbation theory calculations. Energy levels and lifetimes of low-lying excited states within the $n = 4$ complex are reported for each ion. Wavelengths and transition probabilities for the strongest electric-dipole transitions are compared with available experimental data. Synthetic radiative spectra are shown for various wavelength regions.

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1. Introduction

The interpretation and systematization of atomic spectra proceeds from the simple (one-electron systems) to the complex (multi-electron systems) in an interplay of observations and calculations, and also with technical and scientific progress from neutral atoms to highly charged ions. In principle, using modern light sources one can study the spectrum of any charge state ion of any element. However, not every light source can be tuned in a way that permits one to identify the contribution of individual charge state ions. Hence, simulated spectra on the basis of calculations (that in turn have been compared to experimental benchmarks) are very important tools for practical spectrum analysis. On the other hand, many-body problems require enormous computational effort to reach meaningful accuracy, and experimental data are required to test and guide such computations. Evidently, it is advantageous if experiment and theory target the same atomic systems. Calculations are welcome as a systematic reference for checking the interpretation of observations, but at times calculations ought to come first in order to demonstrate their predictive power.

Atomic spectra with particularly prominent resonance lines, such as found in ions with one, two, three, or four electrons in the valence shell, have been favorites for systematic studies along isoelectronic sequences. Concerning $n=4$ valence electrons and elements of high nuclear charge Z , we particularly note experiments using laser-produced plasmas, foil-excited fast ion beams, and measurements at electron beam ion traps. These experiments have pursued Cu-, Zn-, Ga-, and Ge-like spectra up to uranium ($Z=92$). A fair number of computations have also been performed employing a variety of atomic structure approximations. References to much of that work are given in recent experimental [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11] and theoretical [10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22] studies. In this range of high nuclear charge Z and high ion core charge, all calculations have to be relativistic. The common atomic structure codes use the Multi-Configuration Dirac-Fock (MCDF) approach (for example the Grant code [23, 24, 25] and its off-spring, more recently the GRASP2K code [26]), Many-Body Perturbation Theory (MBPT) [19, 20], or Relativistic Configuration Interaction (RCI) codes [21]. We have used [10, 11] the Møller-Plesset many-body perturbation theory (MR-MP) approach [27, 28, 14], a variant of the MBPT method.

Among the sources of highly charged ions, electron beam ion traps (EBIT) [29] play a special role in so far as the ion cloud composition (charge state distribution) can be externally controlled and the highest charge state present in the trap exactly limited. Furthermore, the ion cloud is at rest, and observation can proceed without encountering a net Doppler shift of the wavelengths of spectral lines. This is a major advantage over fast-ion beam techniques [30] and over the rapid expansion of a high-density laser-produced plasma. A recent EBIT experiment on highly charged ions of platinum ($Z=78$) [10] has provided a new anchor for comparisons with theory along the Zn isoelectronic sequence (30 electrons total, two $n=4$ valence electrons) [11]. The comparison has corroborated the accuracy of our MR-MP calculations. The same experimental data set comprised spectral lines not only of Pt^{48+} ions (Zn-like), which can be tied into extensive iso-electronic sequence analyses, but also of neighboring charge states, for which corresponding MR-MP calculations have also reached very good agreement with the experimental data. Here we describe these calculations in more detail and present a more extensive set of results for Pt ions with 28 (Ni-like) to 36 (Kr-like) electrons. This sample may be seen as orthogonal in systematics to the usual isoelectronic work, helping to form a reference data grid. These accurate computational results are expected to help with the identification of spectral lines in future experiments on highly charged Pt ions with several 4s and 4p valence electrons as well as providing benchmarks for other calculational approaches.

2. Calculations

The relativistic Multi-Reference Many-Body Perturbation Theory method employed in the present work originates in an ansatz by Møller and Plesset [31]. Such a relativistic perturbative approach allows to simultaneously take into account both relativistic and electron correlation effects with a relatively small computational effort. The method yields term energies and decay probabilities of spectroscopic quality for multi-valence-electron ions. Theoretical details of the method have been presented elsewhere [27, 28, 14]. Therefore, we include here only a brief sketch of the process without a detailed description of the theory.

The method consists of three steps. The process begins with a state-averaged Multi-Configuration Dirac-Fock-Breit Self-Consistent Field (MCDFB-SCF) calculation [14] for the ground and low-lying excited states of the ions, to obtain a single set of core and valence spinors in the V^N potential. In this relativistic method, the large and small radial components of the bound Dirac spinors are expanded in sets of even-tempered Gaussian-type functions (GTF) that satisfy the boundary conditions associated with a finite nucleus and that are automatically kinetically balanced [32]. We employed the so-called universal Gaussian basis set [33] to avoid the process of fine-tuning the basis exponents. For all systems, we used basis sets of $34s32p30d28f$ Gaussian (G) spinors for angular momentum values up to $L=3$, 26 G spinors for $L=4-5$, and 15 G spinors for $L=6-11$. The parameters α and β defining the basis exponents, $\{\zeta_i = \alpha\beta^{i-1}; i = 1, 2, \dots, N_K\}$, of the even-tempered basis set are 1.15 and 2.0, respectively. The ground and low-lying excited states in Ni- to Kr-like Pt ions were optimized by averaging the energies of even- and odd-parity states with $J=0-2$ (or $J=1/2-5/2$, respectively) arising from the nonrelativistic configurations in Table 1. Intermediate coupling is built in through the MCDFB-SCF process.

Subsequently, relativistic Multi-Reference Configuration Interaction (MR-CI) calculations were performed including highly excited states, in order to account for near-degeneracy effects or strong configuration mixing among the excited states. The relativistic configurations arising the nonrelativistic configurations in Table 1 were included. The relativistic MR-CI, however, fails to account for the bulk of dynamic correlation among all levels unless a very larger number of configurations, on the order of 1×10^6 , are included in the CI calculations. The residual dynamic correlation corrections, however, can be accounted for by state-specific MR-MP calculations based on the CI wave functions. Therefore, in a final step, each of the states was subjected to additional many-body refinement to account for the residual dynamic correlation. All electrons have been included in the MR-MP calculations to determine accurately the effects of relativity and electron correlations. Radiative corrections and the Lamb shift for each state were estimated evaluating [34] the electron self-energy and vacuum polarization.

MR-MP calculations of electric multipole transition probabilities in the Babushkin and Coulomb gauge have been discussed in detail in an earlier study [35]. The transition probability evaluated by excluding the negative-energy space in the Coulomb gauge is inaccurate and deviates from the value evaluated in the Babushkin gauge because of the strong coupling between the large and small components of the Dirac 4-spinors in the electric multipole transition matrix elements. However, transition probabilities evaluated in the Coulomb gauge approach those evaluated in the Babushkin gauge when contributions from the negative-energy space are included. In the present study, electric multipole transition probabilities were evaluated in the Babushkin and Coulomb gauges including negative-energies following the method given in [35].

3. Results

The number of relativistic states produced in the MR-CI calculations of the Ni- to Kr-like Pt ions is rather large and amounts to more than 400 states for many of these ions. The resulting number of possible transitions is extensive, making it impractical to

include all of them in here. Therefore, we present energy and transition probability data only for the lowest 200 levels belonging to the nonrelativistic configurations in Table 1. For Ni- and Zn-like Pt ions, the number of levels is 54 and 84, respectively, and thus all are included. The data are presented in two tables and one figure for each ion. One table comprises the MR-MP calculated term energies and level lifetimes. The lifetime of each level was evaluated including all possible magnetic and electric-multipole (up to octupole) decays. The other table contains a list of the strongest electric-dipole transitions (probability $\geq 10^{10} \text{ s}^{-1}$) with wavelengths, lifetimes of the upper level and both unbranched and branched transition probabilities (given in the Babushkin (length) gauge). The full set of calculated lines in each ion has been convoluted with a Gaussian function and is included in a synthetic spectrum. Of this, spectral ranges with prominent lines were enlarged and plotted in one common figure per charge state. The line intensities in the synthetic spectra are based on gA values, without the application of radiative-collisional modeling (which would depend on electron density). Relative line intensities and apparent spectral line densities are very different in low-density light sources such as an EBIT or a tokamak plasma on one hand or high-density light sources such as a laser-produced plasma on the other.

To estimate the theoretical uncertainties of our data, we compare the MR-MP calculated wavelengths with experimental data in Table 2. The agreement is excellent for most transitions, with theoretical uncertainties comparable to the experimental error bars [10]. Relatively large deviations are present for the line tentatively associated with Pt $^{46+}$ (Ge-like) ions [10] and for blended lines. Table 2 comprises also results of Multi-Configuration Dirac-Fock calculations [15, 16, 17, 18], which represent the only other *ab initio* computational approach applied to Pt ions of the same four iso-electronic sequences. The deviations between these results and the experimental findings are significantly larger than those between our MR-MP calculations and experiment, and they notably increase with the number of valence electrons. This observation underlines the merit of our approach.

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Explanation of Tables

Table 1. Nonrelativistic configurations of Ni- to Kr-like Pt ions included in the MCDFB SCF and MR-CI calculations.

Table 2. MR-MP (this work) and experimental [10] transition wavelengths (\AA) in Cu- to Ge-like Pt ions. Previous MCDF results are also included. Percentage deviations from experiment are given in parenthesis.

Table 3. Energy levels (cm^{-1}) and lifetimes (seconds) in Pt^{50+} (Ni-like).

Occ	Occupation of the dominant relativistic configuration-state functions
	$3d_{3/2}^{n1} 3d_{5/2}^{n2} 4s^{n3} 4p_{1/2}^{n4} 4p_{3/2}^{n5} 4d_{3/2}^{n6} 4d_{5/2}^{n7} 4d_{5/2}^{n8} 4f_{7/2}^{n9}$
J(No) ^P	Key consisting of the quantum number J , parity P and appearance number No
E	Excitation energy in cm^{-1}
τ	Level lifetime in seconds

Table 4. Transitions in Pt^{50+} ions (Ni-like).

λ	Transition wavelength in Ångström
Upper	Key J(No) ^P of the upper level
τ	Upper level lifetime in seconds
Lower	Key J(No) ^P of the lower level
A	Total radiative decay probability in s^{-1}
A_{br}	Transition probability of this decay branch in s^{-1}

Table 5. Energy levels (cm^{-1}) and level lifetimes (seconds) in Pt^{49+} (Cu-like).

See also explanation of Table 3.

Table 6. Transitions in Pt^{49+} ions (Cu-like).

See also explanation of Table 4.

Table 7. Energy levels (cm^{-1}) and level lifetimes (seconds) in Pt^{48+} (Zn-like).

See also explanation of Table 3.

Table 8. Transitions in Pt^{48+} ions (Zn-like).

See also explanation of Table 4.

Table 9. Energy levels (cm^{-1}) and level lifetimes (seconds) in Pt^{47+} (Ga-like).

See also explanation of Table 3.

Table 10. Transitions in Pt^{47+} ions (Ga-like).

See also explanation of Table 4.

Table 11. Energy levels (cm^{-1}) and level lifetimes (seconds) in Pt^{46+} (Ge-like).

See also explanation of Table 3.

Table 12. Transitions in Pt⁴⁶⁺ ions (Ge-like).

See also explanation of Table 4.

Table 13. Energy levels (cm⁻¹) and level lifetimes (seconds) in Pt⁴⁵⁺ (As-like).

See also explanation of Table 3.

Table 14. Transitions in Pt⁴⁵⁺ ions (As-like).

See also explanation of Table 4.

Table 15. Energy levels (cm⁻¹) and level lifetimes (seconds) in Pt⁴⁴⁺ (Se-like).

See also explanation of Table 3.

Table 16. Transitions in Pt⁴⁴⁺ ions (Se-like).

See also explanation of Table 4.

Table 17. Energy levels (cm⁻¹) and level lifetimes (seconds) in Pt⁴³⁺ (Br-like).

See also explanation of Table 3.

Table 18. Transitions in Pt⁴³⁺ ions (Br-like).

See also explanation of Table 4.

Table 19. Energy levels (cm⁻¹) and level lifetimes (seconds) in Pt⁴²⁺ (Kr-like).

See also explanation of Table 3.

Table 20. Transitions in Pt⁴²⁺ ions (Kr-like).

See also explanation of Table 4.

Explanation of Graphs

Figure 1. Synthetic spectra of Pt⁵⁰⁺ ions (Ni-like).

The full set of calculated lines was convoluted with a Gaussian function and is shown in the top panel. Spectral ranges with prominent lines are shown in the lower panels. The line intensities in this synthetic spectra are based on gA values, without the application of radiative-collisional modeling.

Figure 2. Synthetic spectra of Pt⁴⁹⁺ ions (Cu-like).

See also caption of Figure 1.

Figure 3. Synthetic spectra of Pt⁴⁸⁺ ions (Zn-like).

See also caption of Figure 1.

Figure 4. Synthetic spectra of Pt⁴⁷⁺ ions (Ga-like).

See also caption of Figure 1.

Figure 5. Synthetic spectra of Pt⁴⁶⁺ ions (Ge-like).

See also caption of Figure 1.

Figure 6. Synthetic spectra of Pt⁴⁵⁺ ions (As-like).

See also caption of Figure 1.

Figure 7. Synthetic spectra of Pt⁴⁴⁺ ions (Se-like).

See also caption of Figure 1.

Figure 8. Synthetic spectra of Pt⁴³⁺ ions (Br-like).

See also caption of Figure 1.

Figure 9. Synthetic spectra of Pt⁴²⁺ ions (Kr-like).

See also caption of Figure 1.

Table 1

Nonrelativistic configurations of Ni- to Kr-like Pt ions included in the MCDFB SCF and MR-CI calculations.

MCDFB SCF

Ni (Pt⁵⁰⁺)	Cu (Pt⁴⁹⁺)	Zn (Pt⁴⁸⁺)	Ga (Pt⁴⁷⁺)	Ge (Pt⁴⁶⁺)
$3d^{10}$	$3d^{10}4l \ (l \leq 4)$	$4s^2$	$4s^24l \ (l \leq 4)$	$4s^24p^2$
$3d^94l \ (l \leq 4)$	$3d^94s^2$	$4s4l \ (l \leq 4)$	$4s4p^2$	$4s^24p4d$
	$3d^94s4p$			$4s4p^3$
				$4p^4$
As (Pt⁴⁵⁺)	Se (Pt⁴⁴⁺)	Br (Pt⁴³⁺)	Kr (Pt⁴²⁺)	
$4s^24p^3$	$4s^24p^4$	$4s^24p^5$	$4s^24p^6$	
$4s^24p^24d$	$4s^24p^34d$	$4s^24p^44d$	$4s^24p^54d$	
$4s4p^4$	$4s4p^5$	$4s4p^6$		
$4p^5$	$4p^6$			

MR-CI

Ni (Pt⁵⁰⁺)	Cu (Pt⁴⁹⁺)	Zn (Pt⁴⁸⁺)	Ga (Pt⁴⁷⁺)	Ge (Pt⁴⁶⁺)
$3d^{10}$	$3d^{10}4l \ (l \leq 4)$	$4s^2$	$4s^24l \ (l \leq 4)$	$4s^24l^2 \ (l = 2, 3)$
$3d^94s$	$3d^94l^2 \ (l \leq 4)$	$4p^2$	$4s4p4l \ (l = 3, 4)$	$4s4p4d^2$
$3d^94p$	$3d^94s4p$	$4d^2$	$4p^24l \ (l = 3, 4)$	$4p^24d^2$
$3d^94d$	$3d^94s4d$	$4f^2$	$4s4d4f$	$4s^24p4d$
$3d^94f$	$3d^94s4f$	$4s4p$	$4p4d4f$	$4s4p^24d$
	$3d^94p4d$	$4s4d$	$4d^24f$	$4p^34d$
	$3d^94p4f$	$4s4f$	$4s4l^2 \ (l \leq 4)$	$4s4l^3 \ (l = 2, 3)$
	$3d^94d4f$	$4p4d$	$4p4l^2 \ (l=3,4)$	$4p4d^3$
		$4p4f$	$4d4f^2$	$4l^4 \ (l = 2, 3)$
		$4d4f$	$4l^3 \ (l \leq 4)$	
As (Pt⁴⁵⁺)	Se (Pt⁴⁴⁺)	Br (Pt⁴³⁺)	Kr (Pt⁴²⁺)	
$4s^24p^3$	$4s^24p^4$	$4s^24p^5$	$4s^24p^6$	
$4s4p^4$	$4s4p^5$	$4s4p^6$	$4s^24p^54d$	
$4p^5$	$4p^6$	$4s^24p^44d$	$4s4p^64d$	
$4s^24p^24d$	$4s^24p^34d$	$4s4p^54d$	$4s^24p^44d^2$	
$4s4p^34d$	$4s4p^44d$	$4p^64d$	$4s4p^54d^2$	
$4p^44d$	$4p^54d$	$4s^24p^34d^2$	$4p^64d^2$	
$4s4p^24d^2$	$4s^24p^24d^2$	$4s4p^44d^2$		
$4p^34d^2$	$4s4p^34d^2$	$4p^54d^2$		
	$4p^44d^2$			

Table 2

MR-MP (this work) and experimental [10] transition wavelengths (\AA) in Cu- to Ge-like Pt ions. Previous MCDF results are also included. Percentage deviations from experiment are given in parenthesis.

Isoel. Seq. (Ion)	Transition (Upper \rightarrow Lower)	Expt.	MR-MP	MCDF
Cu (Pt ⁴⁹⁺)	$4p_{3/2} J=\frac{3}{2} \rightarrow 4s J=\frac{1}{2}$	51.350	51.351 (0.002)	51.426 (0.148) ^b
Zn (Pt ⁴⁸⁺)	$4s4p_{3/2} J=1 \rightarrow 4s^2 J=0$	50.390	50.387 (0.006)	50.196 (0.385) ^c
Ga (Pt ⁴⁷⁺)	$4s4p_{1/2}4p_{3/2} J=\frac{1}{2} \rightarrow 4s^24p_{1/2} J=\frac{1}{2}$	50.180 ^a	50.180 (0.000)	49.832 (0.694) ^d
	$4s4p_{1/2}4p_{3/2} J=\frac{3}{2} \rightarrow 4s^24p_{1/2} J=\frac{1}{2}$	50.673 ^a	50.662 (0.022)	49.896 (1.533) ^d
	$4p_{1/2}^24p_{3/2} J=\frac{3}{2} \rightarrow 4s4p_{1/2}^2 J=\frac{1}{2}$	50.673 ^a	50.677 (0.007)	–
Ge (Pt ⁴⁶⁺)	$4s4p_{1/2}4p_{3/2}^2 J=2 \rightarrow 4s^24p_{1/2}4p_{3/2} J=2$	50.180 ^a	50.184 (0.008)	50.109 (0.141) ^e
	$4s4p_{1/2}^24p_{3/2} J=1 \rightarrow 4s^24p_{1/2}^2 J=0$	50.611	50.602 (0.018)	50.555 (0.111) ^e

^a blended lines

^b Ref. [15]

^c Ref. [16]

^d Ref. [17]

^e Ref. [18]

Table 3Energy levels (cm^{-1}) and lifetimes (s) in Pt^{50+} (Ni-like).

Occ	$J(\text{No})^P$	E	τ
4460000000	0(1)	0	0.000D+00
4451000000	3(1)	14498229	5.350D-05
4451000000	2(1)	14514310	1.116D-10
4361000000	1(1)	15191542	1.824D-07
4361000000	2(2)	15201555	1.427D-10
4450100000	2(1)*	15355124	1.876D-11
4450100000	3(1)*	15364574	1.860D-11
4360100000	2(2)*	16047946	1.866D-11
4360100000	1(1)*	16077425	1.089D-13
4450010000	4(1)*	16452342	1.484D-12
4450010000	2(3)*	16468268	1.483D-12
4450010000	1(2)*	16477615	6.625D-14
4450010000	3(2)*	16496110	1.433D-12
4360010000	0(1)*	17118654	1.525D-12
4360010000	1(3)*	17155500	4.048D-13
4360010000	3(3)*	17158078	1.483D-12
4360010000	2(4)*	17180412	1.441D-12
4450001000	1(2)	17711647	8.722D-13
4450001000	4(1)	17753158	8.424D-13
4450001000	2(3)	17765615	8.268D-13
4450001000	3(2)	17785519	8.225D-13
4450000100	1(3)	17961886	2.781D-12
4450000100	5(1)	17976862	2.634D-12
4450000100	3(3)	18010608	2.594D-12
4450000100	2(4)	18021895	2.270D-12
4450000100	4(2)	18027173	2.542D-12
4450000100	0(2)	18165184	1.631D-12
4360001000	1(4)	18438085	8.781D-13
4360001000	3(4)	18441033	8.403D-13
4360001000	2(5)	18490638	8.006D-13
4360000100	1(5)	18657374	2.616D-12
4360000100	4(3)	18683887	2.625D-12
4360000100	2(6)	18699323	2.504D-12
4360000100	3(5)	18715269	2.551D-12
4360001000	0(3)	18760253	6.303D-13

Continued...

Table 3 (contd)

Occ	$J(\text{No})^P$	E	τ
4450000010	0(2)*	19285922	3.176D-12
4450000010	1(4)*	19312837	2.138D-12
4450000010	5(1)*	19346081	3.108D-12
4450000010	2(5)*	19356125	3.119D-12
4450000010	3(4)*	19382277	3.077D-12
4450000010	4(2)*	19390977	3.018D-12
4450000001	2(6)*	19409743	4.039D-12
4450000001	4(3)*	19446674	4.078D-12
4450000001	5(2)*	19460024	4.017D-12
4450000001	3(5)*	19465573	3.891D-12
4450000001	1(5)*	19587414	5.282D-15
4360000010	4(4)*	20036806	3.094D-12
4360000010	2(7)*	20052801	3.239D-12
4360000001	2(8)*	20091194	3.899D-12
4360000010	3(6)*	20099363	2.985D-12
4360000001	5(3)*	20112477	4.120D-12
4360000001	3(7)*	20140031	4.012D-12
4360000001	4(5)*	20151242	4.015D-12
4360000010	1(6)*	20255514	1.919D-15

Table 4Transitions in Pt⁵⁰⁺ (Ni-like).

λ	Upper	τ	Lower	A	A_{br}
4.937	1(6)*	1.919D-15	0(1)	5.2070D+14	5.2028D+14
5.105	1(5)*	5.282D-15	0(1)	1.8902D+14	1.8872D+14
5.178	1(4)*	2.139D-12	0(1)	1.5431D+11	5.0933D+10
5.829	1(3)*	4.048D-13	0(1)	1.7899D+12	1.2969D+12
6.069	1(2)*	6.625D-14	0(1)	1.4411D+13	1.3760D+13
6.220	1(1)*	1.089D-13	0(1)	9.1267D+12	9.0685D+12
37.274	0(3)	6.304D-13	1(1)*	1.1681D+12	8.6014D+11
40.938	2(5)	8.165D-13	2(2)*	6.0060D+11	2.9453D+11
41.146	3(2)	8.226D-13	2(1)*	5.1545D+11	2.1856D+11
41.306	3(2)	8.226D-13	3(1)*	6.5731D+11	3.5541D+11
41.439	2(5)	8.165D-13	1(1)*	5.7688D+11	2.7172D+11
41.485	2(3)	8.314D-13	2(1)*	9.1774D+11	7.0025D+11
41.649	2(3)	8.314D-13	3(1)*	2.4813D+11	5.1188D+10
41.787	3(4)	8.404D-13	2(2)*	1.1515D+12	1.1144D+12
41.839	1(4)	8.782D-13	2(2)*	1.7942D+11	2.8271D+10
41.866	4(1)	8.426D-13	3(1)*	1.1508D+12	1.1159D+12
42.361	1(4)	8.782D-13	1(1)*	9.2088D+11	7.4473D+11
42.435	1(2)	8.724D-13	2(1)*	1.1151D+12	1.0847D+12
43.809	0(3)	6.304D-13	1(2)*	3.6069D+11	8.2018D+10
47.898	0(2)	1.632D-12	1(1)*	2.3255D+11	8.8251D+10
50.053	3(2)*	1.433D-12	3(1)	3.9684D+11	2.2564D+11
50.280	2(4)*	1.441D-12	1(1)	3.4175D+11	1.6828D+11
50.459	3(2)*	1.433D-12	2(1)	3.0100D+11	1.2982D+11
50.534	2(4)*	1.441D-12	2(2)	3.5206D+11	1.7858D+11
50.760	2(3)*	1.483D-12	3(1)	1.3968D+11	2.8933D+10
50.918	1(3)*	4.048D-13	1(1)	5.7268D+11	1.3276D+11
50.935	1(2)*	6.625D-14	2(1)	6.8100D+11	3.0726D+10
51.111	3(3)*	1.483D-12	2(2)	6.7357D+11	6.7305D+11
51.174	4(1)*	1.484D-12	3(1)	6.7376D+11	6.7376D+11
51.178	2(3)*	1.483D-12	2(1)	5.3423D+11	4.2327D+11
51.891	0(1)*	1.525D-12	1(1)	6.5553D+11	6.5553D+11
59.257	0(2)	1.632D-12	1(2)*	3.7786D+11	2.3301D+11
60.302	3(6)*	2.989D-12	3(4)	6.6060D+10	1.3043D+10
60.810	2(5)*	3.124D-12	1(2)	8.7143D+10	2.3723D+10
61.057	4(2)*	3.022D-12	4(1)	8.0326D+10	1.9497D+10

Continued...

Table 4 (contd)

λ	Upper	τ	Lower	A	A_{br}
61.856	3(4)*	3.081D-12	2(3)	1.5530D+11	7.4294D+10
61.930	2(7)*	3.242D-12	1(4)	1.7676D+11	1.0130D+11
62.161	3(6)*	2.989D-12	2(5)	2.4896D+11	1.8525D+11
62.288	4(2)*	3.022D-12	3(2)	2.3270D+11	1.6362D+11
62.454	1(4)*	2.139D-12	1(2)	2.1443D+11	9.8355D+10
62.627	3(4)*	3.081D-12	3(2)	1.3618D+11	5.7132D+10
62.666	4(4)*	3.097D-12	3(4)	3.1055D+11	2.9871D+11
62.778	5(1)*	3.111D-12	4(1)	3.0903D+11	2.9713D+11
62.873	2(5)*	3.124D-12	2(3)	1.7691D+11	9.7774D+10
63.499	4(2)	2.544D-12	4(1)*	1.0858D+11	2.9988D+10
63.521	0(2)*	3.180D-12	1(2)	3.1057D+11	3.0667D+11
64.014	2(7)*	3.242D-12	2(5)	8.6183D+10	2.4083D+10
64.218	3(5)	2.552D-12	3(3)*	8.6107D+10	1.8924D+10
64.366	2(4)	2.475D-12	2(3)*	2.3812D+11	1.4036D+11
64.632	1(4)*	2.139D-12	2(3)	8.3996D+10	1.5092D+10
64.755	2(4)	2.475D-12	1(2)*	1.1769D+11	3.4289D+10
64.774	2(6)	2.574D-12	1(3)*	2.4734D+11	1.5749D+11
64.837	3(3)	2.596D-12	2(3)*	2.0467D+11	1.0876D+11
64.989	1(5)	2.619D-12	0(1)*	2.0130D+11	1.0610D+11
65.153	3(5)	2.552D-12	2(4)*	3.0344D+11	2.3502D+11
65.314	4(2)	2.544D-12	3(2)*	2.8379D+11	2.0485D+11
65.539	4(3)	2.627D-12	3(3)*	3.8030D+11	3.7994D+11
65.594	5(1)	2.636D-12	4(1)*	3.7942D+11	3.7942D+11
65.837	2(6)	2.574D-12	2(4)*	1.3256D+11	4.5234D+10
66.028	3(3)	2.596D-12	3(2)*	1.6507D+11	7.0738D+10
66.583	1(5)	2.619D-12	1(3)*	1.5938D+11	6.6512D+10
66.952	1(3)	2.783D-12	2(3)*	9.2275D+10	2.3694D+10
67.373	1(3)	2.783D-12	1(2)*	2.4996D+11	1.7386D+11
68.730	3(5)*	3.894D-12	3(3)	7.7534D+10	2.3410D+10
69.068	2(6)*	4.070D-12	1(3)	1.3904D+11	7.8670D+10
69.268	3(5)*	3.894D-12	2(4)	1.6171D+11	1.0184D+11
69.410	3(7)*	4.015D-12	2(6)	1.9419D+11	1.5141D+11
69.635	4(3)*	4.079D-12	3(3)	1.8285D+11	1.3639D+11
69.639	4(5)*	4.017D-12	3(5)	2.1562D+11	1.8678D+11
69.744	2(8)*	3.907D-12	1(5)	1.9030D+11	1.4149D+11
69.791	5(2)*	4.019D-12	4(2)	2.0700D+11	1.7219D+11

Continued...

Table 4 (contd)

λ	Upper	τ	Lower	A	A_{br}
69.999	5(3)*	4.122D-12	4(3)	2.4242D+11	2.4223D+11
70.447	4(3)*	4.079D-12	4(2)	5.8324D+10	1.3877D+10
72.054	2(6)*	4.070D-12	2(4)	8.1901D+10	2.7298D+10
115.427	3(1)*	1.860D-11	3(1)	2.3732D+10	1.0476D+10
116.700	2(1)*	1.876D-11	3(1)	4.3627D+10	3.5702D+10
116.767	2(2)*	1.866D-11	1(1)	2.7768D+10	1.4387D+10
117.611	3(1)*	1.860D-11	2(1)	3.0032D+10	1.6776D+10
118.149	2(2)*	1.866D-11	2(2)	2.5045D+10	1.1703D+10

Table 5Energy levels (cm^{-1}) and lifetimes (s) in Pt^{49+} (Cu-like).

Occ	$J(\text{No})^P$	E	τ
461000000	1/2(1)	0	0.000D+00
460100000	1/2(1)*	867659	1.841D-11
460010000	3/2(1)*	1947373	1.550D-12
460001000	3/2(1)	3269470	8.457D-13
460000100	5/2(1)	3499303	2.543D-12
460000010	5/2(1)*	4908486	2.826D-12
460000001	7/2(1)*	4969769	3.793D-12
452000000	5/2(2)	14370743	9.748D-11
362000000	3/2(2)	15060690	3.116D-11
451100000	5/2(2)*	15128289	3.709D-10
451100000	7/2(2)*	15190090	4.756D-11
451100000	5/2(3)*	15192807	3.924D-11
451100000	3/2(2)*	15199836	1.638D-11
361100000	3/2(3)*	15820569	7.546D-13
361100000	5/2(4)*	15881638	3.186D-11
361100000	3/2(4)*	15894767	1.321D-13
361100000	1/2(2)*	15903312	1.230D-13
450200000	5/2(3)	16102933	7.408D-12
451010000	9/2(1)*	16202396	8.919D-08
451010000	5/2(5)*	16236975	5.568D-11
451010000	3/2(5)*	16238399	1.734D-13
451010000	7/2(3)*	16243899	1.374D-10
451010000	1/2(3)*	16247148	7.342D-14
451010000	7/2(4)*	16364927	9.891D-13
451010000	3/2(6)*	16365468	1.128D-13
451010000	5/2(6)*	16393694	9.585D-13
360200000	3/2(3)	16803995	1.532D-13
361010000	1/2(4)*	16881713	1.992D-12
361010000	3/2(7)*	16913234	7.590D-13
361010000	7/2(5)*	16915401	1.016D-10
361010000	5/2(7)*	16930205	8.791D-11
361010000	1/2(5)*	17043138	3.606D-13
361010000	5/2(8)*	17059919	9.863D-13
361010000	3/2(8)*	17076900	8.402D-13
450110000	7/2(1)	17123916	1.361D-12

Continued...

Table 5 (contd)

Occ	J(No) ^P	E	τ
450110000	9/2(1)	17143380	2.327D-12
450110000	3/2(4)	17145016	1.042D-12
450110000	5/2(4)	17152666	1.616D-12
450110000	1/2(2)	17159616	8.282D-14
450110000	3/2(5)	17161217	7.314D-14
450110000	5/2(5)	17171090	1.600D-12
450110000	7/2(2)	17182927	1.994D-12
451001000	3/2(6)	17539575	7.841D-13
451001000	7/2(3)	17587880	7.781D-13
451001000	5/2(6)	17594852	7.560D-13
451001000	1/2(3)	17595005	5.155D-13
451001000	9/2(2)	17608862	6.838D-13
451001000	3/2(7)	17626768	6.229D-13
451001000	7/2(4)	17638040	6.807D-13
451001000	5/2(7)	17643471	6.690D-13
451000100	11/2(1)	17792337	2.386D-12
360110000	1/2(4)	17795563	6.891D-13
451000100	3/2(8)	17803833	1.807D-12
451000100	1/2(5)	17819231	9.191D-13
360110000	3/2(9)	17830466	4.399D-13
451000100	7/2(5)	17834269	2.314D-12
360110000	7/2(6)	17836939	2.306D-12
360110000	5/2(9)	17841741	2.984D-13
451000100	9/2(3)	17842416	2.265D-12
451000100	5/2(8)	17845387	2.117D-12
360110000	1/2(6)	17851690	1.034D-13
360110000	5/2(10)	17870523	1.667D-13
451000100	9/2(4)	17874084	2.036D-12
360110000	3/2(10)	17878851	1.279D-13
451000100	3/2(11)	17896380	4.157D-13
451000100	5/2(11)	17898641	6.009D-13
451000100	7/2(7)	17910858	2.125D-12
451000100	1/2(7)	18013601	4.655D-13
361001000	5/2(12)	18263880	7.704D-13
450020000	9/2(5)	18270674	6.382D-13
450020000	1/2(9)	18273808	2.783D-13

Continued...

Table 5 (contd)

Occ	J(No) ^P	E	τ
450020000	7/2(8)	18274538	6.345D-13
361001000	1/2(8)	18274561	4.972D-13
361001000	3/2(12)	18285304	6.735D-13
450020000	5/2(13)	18294404	7.513D-14
450020000	3/2(13)	18301512	8.675D-14
361001000	7/2(9)	18304548	6.725D-13
361001000	3/2(14)	18321364	6.398D-13
450101000	1/2(6)*	18344642	1.177D-11
361001000	5/2(14)	18345819	5.240D-13
450020000	5/2(15)	18357888	6.411D-13
450101000	3/2(9)*	18369233	9.037D-12
450101000	9/2(2)*	18384881	1.287D-11
450101000	5/2(9)*	18399813	1.147D-11
450101000	7/2(6)*	18406786	9.723D-12
361000100	3/2(15)	18477521	2.290D-12
450101000	3/2(10)*	18506917	6.045D-13
361000100	9/2(6)	18507095	2.303D-12
361000100	5/2(16)	18517427	2.270D-12
361000100	7/2(10)	18530277	2.235D-12
450101000	7/2(7)*	18531356	5.817D-13
361000100	1/2(10)	18533111	1.671D-12
450101000	5/2(10)*	18555255	5.584D-13
361000100	7/2(11)	18571603	2.066D-12
361000100	3/2(16)	18582373	1.478D-12
361000100	5/2(17)	18596333	1.123D-12
361001000	1/2(11)	18615467	4.054D-13
450100100	1/2(7)*	18665872	6.127D-13
450100100	3/2(11)*	18669142	1.240D-12
450100100	9/2(3)*	18675841	2.231D-12
450100100	11/2(1)*	18685332	3.249D-12
450100100	5/2(11)*	18709992	2.524D-12
450100100	7/2(8)*	18715595	3.133D-12
450100100	3/2(12)*	18723307	1.648D-12
450100100	7/2(9)*	18726144	2.123D-12
450100100	5/2(12)*	18727338	2.089D-12
450100100	9/2(4)*	18733385	2.958D-12

Continued...

Table 5 (contd)

Occ	J(No) ^P	E	τ
450100100	1/2(8)*	18861058	4.515D-13
360020000	3/2(17)	18950630	4.694D-13
360020000	1/2(12)	18966825	2.692D-13
360020000	7/2(12)	18970562	6.387D-13
360020000	5/2(18)	18973442	4.057D-13
360020000	3/2(18)	19042937	5.743D-13
360101000	7/2(10)*	19060946	1.257D-11
360101000	3/2(13)*	19088810	2.014D-13
360101000	5/2(13)*	19117410	2.382D-13
451000010	1/2(9)*	19159006	2.452D-12
360101000	1/2(10)*	19159373	1.547D-13
451000010	3/2(14)*	19182673	1.563D-12
451000010	1/2(11)*	19196804	4.740D-13
451000010	11/2(2)*	19208382	4.049D-12
451000010	5/2(14)*	19222397	2.773D-12
451000010	9/2(5)*	19228671	2.599D-12
360101000	5/2(15)*	19229335	1.589D-13
451000010	3/2(15)*	19237114	1.356D-12
451000010	7/2(11)*	19246130	3.398D-12
451000010	9/2(6)*	19253887	3.787D-12
360101000	3/2(16)*	19256761	1.667D-13
451000010	5/2(16)*	19262094	1.914D-12
451000010	7/2(12)*	19270893	2.702D-12
451000001	5/2(17)*	19283322	3.268D-12
451000001	3/2(17)*	19298805	1.330D-12
451000001	11/2(3)*	19300563	3.249D-12
451000001	9/2(7)*	19310988	5.145D-12
451000001	11/2(4)*	19320535	4.910D-12
451000001	7/2(13)*	19331023	4.522D-12
451000001	7/2(14)*	19343572	2.923D-12
360100100	1/2(12)*	19354125	1.889D-12
451000001	5/2(18)*	19354784	2.399D-12
451000001	9/2(8)*	19356996	3.164D-12
360100100	3/2(18)*	19365728	4.487D-13
360100100	9/2(9)*	19380644	3.217D-12
360100100	7/2(15)*	19397324	3.094D-13

Continued...

Table 5 (contd)

Occ	J(No) ^P	E	τ
360100100	5/2(19)*	19398872	1.271D-12
360100100	3/2(19)*	19411587	1.531D-13
360100100	7/2(16)*	19421804	1.615D-13
360100100	5/2(20)*	19435138	1.132D-13
451000001	3/2(20)*	19454191	5.679D-15
360101000	1/2(14)*	19454634	8.767D-14
451000001	1/2(13)*	19457793	5.758D-15
450011000	5/2(21)*	19510490	4.004D-13
450011000	1/2(15)*	19528225	1.573D-13
450011000	3/2(21)*	19538254	1.898D-13
450011000	9/2(10)*	19544315	5.112D-13
450011000	7/2(17)*	19544770	4.859D-13
450011000	5/2(22)*	19572773	8.410D-14
450011000	7/2(18)*	19577279	4.714D-13
450011000	11/2(5)*	19588889	5.049D-13
450011000	5/2(23)*	19597510	4.847D-13
450011000	1/2(16)*	19611015	1.192D-13
450011000	3/2(22)*	19612433	2.789D-13
450011000	3/2(23)*	19614145	6.369D-14
450011000	5/2(24)*	19616932	2.381D-13
450011000	9/2(11)*	19629385	5.079D-13
450011000	7/2(19)*	19644495	4.728D-13
450010100	5/2(25)*	19724640	1.445D-13
450010100	3/2(24)*	19731859	1.199D-13
450010100	9/2(12)*	19735505	1.171D-12
450010100	7/2(20)*	19751155	3.116D-13
450010100	11/2(6)*	19752793	1.262D-12
450010100	7/2(21)*	19772045	1.803D-13
450010100	5/2(26)*	19782757	7.321D-13
450010100	9/2(13)*	19790455	1.000D-12
450010100	1/2(17)*	19799118	7.099D-13
450010100	3/2(25)*	19824911	1.218D-13
450010100	1/2(18)*	19855314	5.842D-13
450010100	11/2(7)*	19868589	6.665D-13
450010100	7/2(23)*	19887096	1.492D-13
450010100	5/2(28)*	19894127	1.080D-13

Continued...

Table 5 (contd)

Occ	J(No) ^P	E	τ
450010100	9/2(15)*	19896369	6.392D-13
361000010	7/2(22)*	19903827	1.770D-12
361000010	9/2(14)*	19906346	3.827D-12
450010100	3/2(27)*	19912574	3.758D-13
361000010	5/2(27)*	19916265	1.128D-12
361000010	3/2(26)*	19924377	7.639D-13
450010100	5/2(30)*	19934259	7.895D-13
450010100	7/2(24)*	19934284	5.145D-13
361000001	5/2(29)*	19953169	4.315D-12
361000010	7/2(25)*	19966968	3.129D-12
361000010	5/2(31)*	19968734	2.244D-12
361000001	3/2(28)*	19977116	1.470D-12
361000001	11/2(8)*	19978668	5.301D-12
361000001	9/2(16)*	19997420	3.732D-12
450010100	3/2(29)*	20000326	5.768D-14
361000001	7/2(26)*	20000904	4.120D-12
450100010	1/2(13)	20008307	2.526D-12
361000001	9/2(17)*	20020122	3.993D-12
361000001	5/2(32)*	20032253	1.788D-12
450100010	3/2(19)	20037516	2.489D-12
361000001	7/2(27)*	20043059	2.151D-12

Table 6Transitions in Pt⁴⁹⁺ (Cu-like).

λ	Upper	τ	Lower	A	A_{br}
5.000	3/2(29)*	5.768D-14	1/2(1)	1.5467D+13	1.3799D+13
5.019	3/2(26)*	7.663D-13	1/2(1)	7.5958D+11	4.4210D+11
5.044	3/2(25)*	1.218D-13	1/2(1)	4.3027D+11	2.2556D+10
5.068	3/2(24)*	1.200D-13	1/2(1)	2.2068D+12	5.8424D+11
5.098	3/2(23)*	6.373D-14	1/2(1)	3.6622D+12	8.5474D+11
5.099	1/2(16)*	1.193D-13	1/2(1)	1.7264D+12	3.5551D+11
5.118	3/2(21)*	1.899D-13	1/2(1)	2.0000D+12	7.5943D+11
5.121	1/2(15)*	1.573D-13	1/2(1)	4.1698D+12	2.7349D+12
5.139	1/2(13)*	5.758D-15	1/2(1)	1.7313D+14	1.7260D+14
5.140	3/2(20)*	5.679D-15	1/2(1)	1.7541D+14	1.7474D+14
5.182	3/2(17)*	1.340D-12	1/2(1)	2.5631D+11	8.8014D+10
5.209	1/2(11)*	4.754D-13	1/2(1)	1.5248D+11	1.1054D+10
5.213	3/2(14)*	1.569D-12	1/2(1)	1.8322D+11	5.2663D+10
5.219	1/2(10)*	1.548D-13	1/2(1)	5.3794D+11	4.4783D+10
5.302	1/2(8)*	4.515D-13	1/2(1)	1.3704D+12	8.4800D+11
5.341	3/2(12)*	1.748D-12	1/2(1)	1.1829D+11	2.4459D+10
5.356	3/2(11)*	1.241D-12	1/2(1)	4.5036D+11	2.5167D+11
5.357	1/2(7)*	6.128D-13	1/2(1)	1.2526D+12	9.6160D+11
5.634	1/2(11)	4.060D-13	1/2(1)*	4.5105D+11	8.2592D+10
5.849	3/2(18)	5.744D-13	3/2(1)*	3.3138D+11	6.3077D+10
5.856	3/2(8)*	8.438D-13	1/2(1)	1.4221D+11	1.7064D+10
5.867	1/2(5)*	3.612D-13	1/2(1)	1.7797D+12	1.1440D+12
5.872	3/2(11)	4.199D-13	1/2(1)*	2.0112D+11	1.6983D+10
5.873	5/2(18)	4.058D-13	3/2(1)*	8.7778D+11	3.1268D+11
5.876	1/2(12)	2.692D-13	3/2(1)*	1.9240D+12	9.9655D+11
5.881	3/2(17)	4.697D-13	3/2(1)*	5.9164D+11	1.6440D+11
5.888	1/2(6)	1.034D-13	1/2(1)*	1.5975D+12	2.6396D+11
5.895	3/2(9)	4.399D-13	1/2(1)*	1.4454D+12	9.1910D+11
5.899	1/2(5)	9.236D-13	1/2(1)*	6.2329D+11	3.5882D+11
5.905	3/2(8)	1.844D-12	1/2(1)*	9.1582D+10	1.5465D+10
5.913	3/2(7)*	7.602D-13	1/2(1)	1.3131D+12	1.3107D+12
5.924	1/2(4)*	1.996D-12	1/2(1)	4.9471D+11	4.8841D+11
5.967	3/2(7)	6.299D-13	1/2(1)*	1.3875D+11	1.2126D+10
5.978	1/2(3)	5.176D-13	1/2(1)*	3.7052D+11	7.1053D+10
5.985	3/2(28)*	1.482D-12	3/2(1)	8.4657D+10	1.0625D+10

Continued..

Table 6 (contd)

λ	Upper	τ	Lower	A	A_{br}
5.999	1/2(11)	4.060D-13	3/2(1)*	2.8107D+11	3.2072D+10
6.006	5/2(17)	1.129D-12	3/2(1)*	4.0582D+11	1.8595D+11
6.011	3/2(16)	1.511D-12	3/2(1)*	1.6915D+11	4.3241D+10
6.029	1/2(18)*	5.905D-13	3/2(1)	2.3409D+11	3.2356D+10
6.029	1/2(10)	1.691D-12	3/2(1)*	7.7142D+10	1.0062D+10
6.045	7/2(27)*	2.172D-12	5/2(1)	1.4364D+11	4.4809D+10
6.049	5/2(32)*	1.807D-12	5/2(1)	1.8542D+11	6.2109D+10
6.050	1/2(17)*	7.187D-13	3/2(1)	2.1619D+11	3.3589D+10
6.056	5/2(26)*	7.435D-13	3/2(1)	1.1656D+11	1.0101D+10
6.060	7/2(26)*	4.170D-12	5/2(1)	4.9444D+10	1.0195D+10
6.085	7/2(24)*	5.166D-13	5/2(1)	4.9299D+11	1.2554D+11
6.091	5/2(27)*	1.133D-12	5/2(1)	5.5280D+11	3.4615D+11
6.093	3/2(27)*	3.792D-13	5/2(1)	1.3101D+12	6.5091D+11
6.094	5/2(15)	6.412D-13	3/2(1)*	1.3651D+11	1.1947D+10
6.096	7/2(22)*	1.775D-12	5/2(1)	1.6202D+11	4.6594D+10
6.098	5/2(14)	5.322D-13	3/2(1)*	4.0906D+11	8.9050D+10
6.099	5/2(28)*	1.080D-13	5/2(1)	7.6137D+12	6.2593D+12
6.102	7/2(23)*	1.494D-13	5/2(1)	5.4527D+12	4.4410D+12
6.107	3/2(14)	6.470D-13	3/2(1)*	1.3025D+11	1.0976D+10
6.110	3/2(6)*	1.128D-13	1/2(1)	7.8670D+12	6.9788D+12
6.115	3/2(13)	8.675D-14	3/2(1)*	9.9428D+12	8.5757D+12
6.117	5/2(24)*	2.384D-13	3/2(1)	2.2319D+12	1.1878D+12
6.117	5/2(13)	7.513D-14	3/2(1)*	1.1762D+13	1.0394D+13
6.118	3/2(23)*	6.373D-14	3/2(1)	9.9879D+12	6.3577D+12
6.119	3/2(22)*	2.791D-13	3/2(1)	1.5930D+12	7.0832D+11
6.119	1/2(16)*	1.193D-13	3/2(1)	4.4629D+12	2.3758D+12
6.121	3/2(12)	6.785D-13	3/2(1)*	1.5920D+11	1.7196D+10
6.125	1/2(8)	4.978D-13	3/2(1)*	5.9831D+11	1.7821D+11
6.125	1/2(9)	2.784D-13	3/2(1)*	2.0701D+12	1.1929D+12
6.125	3/2(25)*	1.218D-13	5/2(1)	6.6841D+12	5.4432D+12
6.134	5/2(22)*	8.410D-14	3/2(1)	9.9568D+12	8.3376D+12
6.137	3/2(5)	7.314D-14	1/2(1)*	1.3067D+13	1.2489D+13
6.138	1/2(2)	8.283D-14	1/2(1)*	1.1669D+13	1.1277D+13
6.141	5/2(26)*	7.435D-13	5/2(1)	1.9819D+11	2.9201D+10
6.144	3/2(4)	1.043D-12	1/2(1)*	3.3337D+11	1.1586D+11
6.145	7/2(21)*	1.804D-13	5/2(1)	4.5209D+12	3.6879D+12

Continued...

Table 6 (contd)

λ	Upper	τ	Lower	A	A_{br}
6.147	3/2(21)*	1.899D-13	3/2(1)	1.3663D+12	3.5439D+11
6.151	1/2(15)*	1.573D-13	3/2(1)	3.3704D+11	1.7867D+10
6.153	7/2(20)*	3.133D-13	5/2(1)	2.3970D+12	1.8000D+12
6.155	1/2(3)*	7.348D-14	1/2(1)	1.3610D+13	1.3609D+13
6.157	5/2(21)*	4.005D-13	3/2(1)	5.7896D+11	1.3425D+11
6.158	3/2(5)*	1.737D-13	1/2(1)	5.7574D+12	5.7562D+12
6.160	3/2(24)*	1.200D-13	5/2(1)	5.1720D+12	3.2091D+12
6.163	5/2(25)*	1.447D-13	5/2(1)	5.7898D+12	4.8500D+12
6.178	1/2(14)*	8.768D-14	3/2(1)	1.0098D+13	8.9404D+12
6.220	7/2(18)*	4.716D-13	5/2(1)	1.7265D+11	1.4059D+10
6.224	1/2(7)	4.661D-13	3/2(1)*	1.2927D+12	7.7895D+11
6.239	3/2(17)*	1.340D-12	3/2(1)	8.8901D+10	1.0588D+10
6.245	5/2(17)*	3.340D-12	3/2(1)	7.8538D+10	2.0603D+10
6.253	5/2(16)*	1.940D-12	3/2(1)	1.6347D+11	5.1838D+10
6.255	3/2(16)*	1.673D-13	3/2(1)	4.2559D+12	3.0304D+12
6.263	3/2(15)*	1.368D-12	3/2(1)	3.0167D+11	1.2450D+11
6.266	5/2(15)*	1.590D-13	3/2(1)	4.5434D+12	3.2826D+12
6.269	5/2(11)	6.058D-13	3/2(1)*	1.1562D+12	8.0993D+11
6.270	3/2(11)	4.199D-13	3/2(1)*	1.6797D+12	1.1847D+12
6.275	3/2(3)	1.532D-13	1/2(1)*	6.3855D+12	6.2447D+12
6.275	5/2(20)*	1.132D-13	5/2(1)	8.3946D+12	7.9792D+12
6.277	3/2(10)	1.280D-13	3/2(1)*	7.1590D+12	6.5603D+12
6.279	1/2(11)*	4.754D-13	3/2(1)	1.6343D+12	1.2699D+12
6.280	5/2(10)	1.667D-13	3/2(1)*	5.5174D+12	5.0738D+12
6.280	7/2(16)*	1.615D-13	5/2(1)	5.8563D+12	5.5385D+12
6.284	3/2(14)*	1.569D-12	3/2(1)	1.3854D+11	3.0110D+10
6.284	3/2(19)*	1.534D-13	5/2(1)	5.9555D+12	5.4392D+12
6.288	1/2(6)	1.034D-13	3/2(1)*	7.5821D+12	5.9463D+12
6.288	1/2(2)*	1.230D-13	1/2(1)	8.1067D+12	8.0813D+12
6.289	5/2(19)*	1.286D-12	5/2(1)	3.8350D+11	1.8920D+11
6.290	7/2(15)*	3.094D-13	5/2(1)	2.7775D+12	2.3873D+12
6.291	3/2(4)*	1.322D-13	1/2(1)	7.5464D+12	7.5270D+12
6.292	5/2(9)	2.984D-13	3/2(1)*	2.5925D+12	2.0054D+12
6.293	1/2(10)*	1.548D-13	3/2(1)	5.0509D+12	3.9482D+12
6.296	3/2(9)	4.399D-13	3/2(1)*	1.5701D+11	1.0846D+10
6.303	3/2(18)*	4.490D-13	5/2(1)	1.8387D+12	1.5178D+12

Continued...

Table 6 (contd)

λ	Upper	τ	Lower	A	A_{br}
6.310	1/2(4)	6.896D-13	3/2(1)*	7.0823D+11	3.4587D+11
6.310	5/2(13)*	2.394D-13	3/2(1)	4.0877D+12	4.0003D+12
6.321	3/2(3)*	7.560D-13	1/2(1)	1.3210D+12	1.3192D+12
6.321	3/2(13)*	2.015D-13	3/2(1)	4.7818D+12	4.6073D+12
6.329	3/2(17)*	1.340D-12	5/2(1)	1.0258D+11	1.4098D+10
6.414	1/2(8)*	4.515D-13	3/2(1)	4.1027D+11	7.6001D+10
6.579	3/2(2)*	1.894D-11	1/2(1)	2.8998D+10	1.5925D+10
7.046	3/2(2)	4.143D-11	1/2(1)*	2.2865D+10	2.1663D+10
36.755	1/2(11)	4.060D-13	3/2(4)*	7.0071D+11	1.9933D+11
36.871	1/2(11)	4.060D-13	1/2(2)*	4.9865D+11	1.0095D+11
37.175	7/2(11)	2.085D-12	5/2(4)*	7.8093D+10	1.2714D+10
37.258	9/2(4)	2.055D-12	7/2(2)*	8.8960D+10	1.6264D+10
37.727	1/2(14)*	8.768D-14	3/2(3)	6.2578D+11	3.4336D+10
39.987	3/2(14)	6.470D-13	3/2(3)*	4.8623D+11	1.5295D+11
40.430	7/2(19)*	4.729D-13	5/2(5)	3.9379D+11	7.3337D+10
40.528	3/2(22)*	2.791D-13	3/2(4)	3.6999D+11	3.8211D+10
40.542	5/2(6)	7.583D-13	5/2(2)*	8.4767D+11	5.4484D+11
40.572	3/2(12)	6.785D-13	3/2(3)*	2.1798D+11	3.2239D+10
40.581	5/2(14)	5.322D-13	5/2(4)*	6.2104D+11	2.0526D+11
40.625	7/2(19)*	4.729D-13	7/2(2)	4.2027D+11	8.3531D+10
40.654	3/2(22)*	2.791D-13	5/2(4)	2.1127D+11	1.2459D+10
40.657	7/2(3)	7.817D-13	5/2(2)*	6.4203D+11	3.2221D+11
40.721	5/2(24)*	2.384D-13	3/2(5)	2.2877D+11	1.2479D+10
40.741	3/2(23)*	6.373D-14	1/2(2)	3.9997D+11	1.0196D+10
40.750	1/2(8)	4.978D-13	3/2(3)*	3.8493D+11	7.3766D+10
40.760	7/2(18)*	4.716D-13	7/2(1)	4.3765D+11	9.0337D+10
40.770	3/2(16)*	1.673D-13	3/2(3)	1.5960D+12	4.2619D+11
40.778	5/2(10)*	5.589D-13	5/2(3)	1.6715D+12	1.5616D+12
40.793	1/2(16)*	1.193D-13	1/2(2)	8.2807D+11	8.1792D+10
40.799	5/2(14)	5.322D-13	3/2(4)*	7.8751D+11	3.3005D+11
40.805	5/2(7)	6.726D-13	5/2(3)*	7.3125D+11	3.5966D+11
40.851	7/2(4)	6.819D-13	7/2(2)*	5.9310D+11	2.3986D+11
40.875	9/2(11)*	5.080D-13	7/2(2)	6.2278D+11	1.9704D+11
40.891	11/2(5)*	5.050D-13	9/2(1)	8.1840D+11	3.3823D+11
40.896	7/2(4)	6.819D-13	5/2(3)*	7.8513D+11	4.2032D+11
40.902	5/2(23)*	4.849D-13	5/2(4)	2.3514D+11	2.6810D+10

Continued...

Table 6 (contd)

λ	Upper	τ	Lower	A	A_{br}
40.923	5/2(7)	6.726D-13	3/2(2)*	6.2682D+11	2.6427D+11
40.928	5/2(12)	7.713D-13	3/2(3)*	1.0080D+12	7.8371D+11
40.961	3/2(22)*	2.791D-13	5/2(5)	4.6380D+11	6.0044D+10
41.085	3/2(7)	6.299D-13	5/2(3)*	1.6923D+11	1.8040D+10
41.179	7/2(7)*	5.817D-13	5/2(3)	1.6069D+12	1.5020D+12
41.204	3/2(7)	6.299D-13	3/2(2)*	1.1325D+12	8.0792D+11
41.213	5/2(23)*	4.849D-13	5/2(5)	5.8708D+11	1.6711D+11
41.231	5/2(15)*	1.590D-13	3/2(3)	1.6206D+12	4.1763D+11
41.244	7/2(18)*	4.716D-13	5/2(4)	4.7861D+11	1.0804D+11
41.273	7/2(9)	6.751D-13	5/2(4)*	1.3976D+12	1.3186D+12
41.308	7/2(17)*	4.868D-13	7/2(1)	4.9299D+11	1.1832D+11
41.316	9/2(10)*	5.113D-13	7/2(1)	3.7273D+11	7.1029D+10
41.343	9/2(2)	6.840D-13	7/2(2)*	1.4397D+12	1.4176D+12
41.356	3/2(14)	6.470D-13	1/2(2)*	7.0583D+11	3.2232D+11
41.415	5/2(23)*	4.849D-13	7/2(2)	2.2647D+11	2.4869D+10
41.467	5/2(22)*	8.410D-14	3/2(5)	7.9960D+11	5.3771D+10
41.472	3/2(6)	7.842D-13	5/2(2)*	8.6902D+11	5.9224D+11
41.584	5/2(6)	7.583D-13	7/2(2)*	2.9151D+11	6.4435D+10
41.598	3/2(10)*	6.059D-13	5/2(3)	1.5414D+12	1.4395D+12
41.603	3/2(12)	6.785D-13	5/2(4)*	2.4226D+11	3.9819D+10
41.631	5/2(6)	7.583D-13	5/2(3)*	1.2257D+11	1.1392D+10
41.635	3/2(1)	8.458D-13	1/2(1)*	1.1428D+12	1.1045D+12
41.643	7/2(17)*	4.868D-13	9/2(1)	1.9106D+11	1.7770D+10
41.650	9/2(10)*	5.113D-13	9/2(1)	6.5020D+11	2.1614D+11
41.705	7/2(3)	7.817D-13	7/2(2)*	2.1335D+11	3.5580D+10
41.751	1/2(3)	5.176D-13	3/2(2)*	1.5128D+12	1.1844D+12
41.752	7/2(3)	7.817D-13	5/2(3)*	3.9682D+11	1.2309D+11
41.784	3/2(21)*	1.899D-13	3/2(4)	3.7398D+11	2.6553D+10
41.804	7/2(17)*	4.868D-13	5/2(4)	5.6919D+11	1.5772D+11
41.832	3/2(12)	6.785D-13	3/2(4)*	7.9048D+11	4.2394D+11
41.901	5/2(21)*	4.005D-13	7/2(1)	9.8514D+11	3.8870D+11
41.960	1/2(15)*	1.573D-13	3/2(4)	1.1603D+12	2.1175D+11
41.977	5/2(12)	7.713D-13	5/2(4)*	1.1750D+11	1.0649D+10
42.172	1/2(8)	4.978D-13	1/2(2)*	6.7706D+11	2.2821D+11
42.210	5/2(12)	7.713D-13	3/2(4)*	1.3729D+11	1.4539D+10
42.245	3/2(21)*	1.899D-13	5/2(5)	6.9584D+11	9.1926D+10

Continued...

Table 6 (contd)

λ	Upper	τ	Lower	A	A_{br}
42.348	9/2(10)*	5.113D-13	7/2(2)	3.5224D+11	6.3434D+10
42.456	1/2(10)*	1.548D-13	3/2(3)	7.4312D+11	8.5462D+10
42.612	3/2(6)	7.842D-13	5/2(3)*	3.5589D+11	9.9328D+10
44.444	1/2(11)	4.060D-13	3/2(6)*	1.8653D+11	1.4126D+10
47.196	1/2(7)	4.661D-13	3/2(4)*	1.7768D+11	1.4717D+10
47.700	7/2(25)*	3.208D-12	5/2(10)	6.3185D+10	1.2809D+10
47.959	1/2(12)	2.692D-13	1/2(4)*	2.4575D+11	1.6257D+10
48.164	11/2(7)*	6.667D-13	11/2(1)	3.1467D+11	6.6013D+10
48.259	7/2(8)	6.348D-13	9/2(1)*	1.3166D+11	1.1005D+10
48.287	9/2(6)*	3.811D-12	7/2(2)	5.5150D+10	1.1590D+10
48.323	9/2(14)*	3.919D-12	7/2(6)	9.7294D+10	3.7095D+10
48.334	3/2(17)	4.697D-13	1/2(4)*	1.8653D+11	1.6342D+10
48.349	9/2(5)	6.383D-13	9/2(1)*	5.2480D+11	1.7580D+11
48.426	11/2(2)*	4.057D-12	9/2(1)	9.8544D+10	3.9394D+10
48.539	5/2(18)	4.058D-13	3/2(7)*	1.6246D+11	1.0711D+10
48.658	7/2(12)	6.388D-13	7/2(5)*	5.4606D+11	1.9049D+11
48.687	9/2(15)*	6.394D-13	9/2(3)	2.4852D+11	3.9494D+10
48.695	1/2(12)	2.692D-13	3/2(7)*	3.3390D+11	3.0013D+10
48.942	5/2(18)	4.058D-13	5/2(7)*	4.0271D+11	6.5814D+10
48.952	5/2(5)	1.601D-12	5/2(2)*	2.8845D+11	1.3322D+11
49.078	7/2(8)	6.348D-13	5/2(5)*	2.5829D+11	4.2350D+10
49.082	3/2(17)	4.697D-13	3/2(7)*	1.9805D+11	1.8422D+10
49.114	1/2(18)*	5.905D-13	1/2(5)	1.8346D+11	1.9874D+10
49.125	5/2(30)*	7.920D-13	5/2(11)	3.0458D+11	7.3474D+10
49.130	1/2(9)	2.784D-13	3/2(5)*	4.7681D+11	6.3284D+10
49.246	7/2(8)	6.348D-13	7/2(3)*	2.9780D+11	5.6299D+10
49.398	5/2(4)	1.617D-12	5/2(2)*	1.7063D+11	4.7062D+10
49.421	7/2(24)*	5.166D-13	7/2(7)	2.6335D+11	3.5825D+10
49.422	5/2(30)*	7.920D-13	7/2(7)	2.1531D+11	3.6718D+10
49.433	5/2(6)*	9.623D-13	5/2(2)	1.0391D+12	1.0390D+12
49.476	5/2(9)	2.984D-13	3/2(3)*	3.6597D+11	3.9964D+10
49.492	9/2(11)*	5.080D-13	9/2(2)	2.2782D+11	2.6366D+10
49.495	3/2(17)	4.697D-13	5/2(7)*	2.2517D+11	2.3813D+10
49.564	3/2(22)*	2.791D-13	5/2(6)	2.5398D+11	1.8005D+10
49.585	3/2(4)	1.043D-12	5/2(2)*	2.2237D+11	5.1553D+10
49.598	3/2(8)*	8.438D-13	3/2(2)	1.0418D+12	9.1586D+11

Continued...

Table 6 (contd)

λ	Upper	τ	Lower	A	A_{br}
49.598	3/2(27)*	3.792D-13	3/2(11)	3.3621D+11	4.2866D+10
49.603	1/2(16)*	1.193D-13	1/2(3)	6.1454D+11	4.5048D+10
49.677	7/2(23)*	1.494D-13	9/2(4)	3.1809D+11	1.5113D+10
49.754	3/2(9)	4.399D-13	3/2(3)*	4.2957D+11	8.1181D+10
49.839	7/2(19)*	4.729D-13	7/2(4)	4.0743D+11	7.8505D+10
49.934	5/2(23)*	4.849D-13	5/2(6)	3.4651D+11	5.8219D+10
49.974	7/2(19)*	4.729D-13	5/2(7)	5.3982D+11	1.3781D+11
50.019	5/2(8)*	9.899D-13	3/2(2)	1.0020D+12	9.9387D+11
50.033	3/2(21)*	1.899D-13	3/2(6)	3.0926D+11	1.8158D+10
50.110	7/2(1)	1.361D-12	5/2(2)*	5.0948D+11	3.5322D+11
50.132	3/2(6)*	1.128D-13	5/2(2)	9.9532D+11	1.1171D+11
50.138	11/2(7)*	6.667D-13	9/2(4)	2.5002D+11	4.1674D+10
50.146	7/2(4)*	9.938D-13	5/2(2)	1.0028D+12	9.9936D+11
50.177	5/2(15)	6.412D-13	7/2(4)*	3.5379D+11	8.0250D+10
50.180	7/2(2)	1.995D-12	7/2(2)*	2.5759D+11	1.3238D+11
50.217	9/2(11)*	5.080D-13	7/2(4)	8.0959D+11	3.3297D+11
50.247	5/2(24)*	2.384D-13	3/2(7)	4.4251D+11	4.6690D+10
50.248	7/2(2)	1.995D-12	5/2(3)*	1.6084D+11	5.1611D+10
50.266	7/2(18)*	4.716D-13	7/2(3)	3.4450D+11	5.5976D+10
50.318	3/2(23)*	6.373D-14	3/2(7)	5.5978D+11	1.9970D+10
50.334	3/2(29)*	5.768D-14	1/2(7)	4.4565D+11	1.1456D+10
50.365	9/2(15)*	6.394D-13	7/2(7)	1.6863D+11	1.8182D+10
50.381	5/2(22)*	8.410D-14	7/2(3)	5.2314D+11	2.3017D+10
50.428	3/2(18)	5.744D-13	5/2(8)*	5.0128D+11	1.4434D+11
50.443	1/2(5)*	3.612D-13	3/2(2)	9.8244D+11	3.4861D+11
50.443	7/2(18)*	4.716D-13	5/2(6)	2.5050D+11	2.9596D+10
50.504	11/2(5)*	5.050D-13	9/2(2)	1.0427D+12	5.4904D+11
50.508	1/2(17)*	7.187D-13	1/2(5)	3.5408D+11	9.0103D+10
50.614	5/2(10)	1.667D-13	3/2(4)*	3.6729D+11	2.2485D+10
50.633	1/2(4)	6.896D-13	3/2(3)*	4.4921D+11	1.3914D+11
50.672	5/2(24)*	2.384D-13	5/2(7)	4.1602D+11	4.1268D+10
50.729	5/2(5)	1.601D-12	3/2(2)*	2.3545D+11	8.8758D+10
50.738	5/2(21)*	4.005D-13	3/2(6)	6.4420D+11	1.6621D+11
50.788	3/2(22)*	2.791D-13	5/2(7)	2.4053D+11	1.6149D+10
50.802	7/2(18)*	4.716D-13	9/2(2)	1.5615D+11	1.1500D+10
50.864	3/2(18)	5.744D-13	3/2(8)*	7.9069D+11	3.5910D+11

Continued...

Table 6 (contd)

λ	Upper	τ	Lower	A	A_{br}
50.911	5/2(15)	6.412D-13	5/2(6)*	9.0504D+11	5.2516D+11
50.929	3/2(28)*	1.482D-12	1/2(7)	1.0501D+11	1.6348D+10
50.953	5/2(4)	1.617D-12	7/2(2)*	1.2568D+11	2.5533D+10
51.018	5/2(9)	2.984D-13	5/2(4)*	2.4913D+11	1.8520D+10
51.024	5/2(4)	1.617D-12	5/2(3)*	2.6763D+11	1.1579D+11
51.026	1/2(2)	8.283D-14	3/2(2)*	3.5080D+11	1.0193D+10
51.048	1/2(18)*	5.905D-13	3/2(11)	2.5129D+11	3.7286D+10
51.113	9/2(10)*	5.113D-13	7/2(3)	3.5622D+11	6.4874D+10
51.120	9/2(13)*	1.000D-12	7/2(5)	1.3578D+11	1.8442D+10
51.143	7/2(6)	2.307D-12	5/2(4)*	3.7982D+11	3.3285D+11
51.196	9/2(1)	2.328D-12	7/2(2)*	3.7942D+11	3.3507D+11
51.284	7/2(17)*	4.868D-13	5/2(6)	3.5021D+11	5.9706D+10
51.325	1/2(6)	1.034D-13	1/2(2)*	3.1985D+11	1.0582D+10
51.351	3/2(1)*	1.550D-12	1/2(1)	6.4517D+11	6.4517D+11
51.409	3/2(4)	1.043D-12	3/2(2)*	3.0482D+11	9.6871D+10
51.616	5/2(26)*	7.435D-13	5/2(8)	1.3626D+11	1.3804D+10
51.652	3/2(13)	8.675D-14	3/2(6)*	6.0954D+11	3.2230D+10
51.784	7/2(1)	1.361D-12	5/2(3)*	1.1595D+11	1.8294D+10
51.842	5/2(13)	7.513D-14	3/2(6)*	5.2464D+11	2.0681D+10
51.867	3/2(24)*	1.200D-13	3/2(8)	3.5750D+11	1.5333D+10
51.914	3/2(25)*	1.218D-13	5/2(11)	3.8529D+11	1.8087D+10
51.984	1/2(12)	2.692D-13	1/2(5)*	8.5621D+11	1.9735D+11
52.061	5/2(25)*	1.447D-13	3/2(8)	5.5231D+11	4.4135D+10
52.168	7/2(20)*	3.133D-13	7/2(5)	2.2861D+11	1.6373D+10
52.182	9/2(13)*	1.000D-12	9/2(4)	4.5382D+11	2.0602D+11
52.260	5/2(18)	4.058D-13	5/2(8)*	2.4419D+11	2.4199D+10
52.284	3/2(24)*	1.200D-13	1/2(5)	3.4685D+11	1.4432D+10
52.338	7/2(12)	6.388D-13	5/2(8)*	9.5843D+11	5.8683D+11
52.346	11/2(6)*	1.263D-12	9/2(3)	6.9352D+11	6.0726D+11
52.367	7/2(8)	6.348D-13	7/2(4)*	3.1624D+11	6.3489D+10
52.402	1/2(9)	2.784D-13	3/2(6)*	7.8453D+11	1.7132D+11
52.425	3/2(17)	4.697D-13	1/2(5)*	5.2109D+11	1.2753D+11
52.472	7/2(20)*	3.133D-13	5/2(8)	5.2438D+11	8.6144D+10
52.473	9/2(5)	6.383D-13	7/2(4)*	9.4990D+11	5.7595D+11
52.556	1/2(17)*	7.187D-13	3/2(11)	3.5890D+11	9.2571D+10
52.597	9/2(12)*	1.172D-12	7/2(5)	4.7154D+11	2.6057D+11

Continued...

Table 6 (contd)

λ	Upper	τ	Lower	A	A_{br}
52.728	5/2(18)	4.058D-13	3/2(8)*	6.5194D+11	1.7248D+11
52.824	9/2(12)*	1.172D-12	9/2(3)	9.6687D+10	1.0955D+10
52.890	3/2(17)	4.697D-13	5/2(8)*	1.9653D+11	1.8141D+10
53.012	5/2(26)*	7.435D-13	3/2(11)	2.7335D+11	5.5550D+10
53.168	7/2(8)	6.348D-13	5/2(6)*	5.2175D+11	1.7282D+11
53.369	3/2(17)	4.697D-13	3/2(8)*	1.9555D+11	1.7960D+10
53.422	5/2(26)*	7.435D-13	7/2(7)	2.1691D+11	3.4980D+10
53.584	5/2(5)*	7.477D-11	5/2(2)	1.2387D+10	1.1471D+10
53.722	9/2(12)*	1.172D-12	9/2(4)	1.3370D+11	2.0947D+10
56.332	1/2(7)	4.661D-13	3/2(5)*	2.1461D+11	2.1469D+10
58.829	1/2(8)*	4.515D-13	3/2(5)	2.3982D+11	2.5968D+10
59.071	3/2(19)	2.489D-12	1/2(6)*	7.5386D+10	1.4145D+10
59.417	7/2(12)*	2.760D-12	7/2(3)	7.3832D+10	1.5045D+10
59.820	9/2(4)	2.055D-12	9/2(1)*	1.3977D+11	4.0149D+10
59.942	3/2(19)	2.489D-12	3/2(9)*	1.8778D+11	8.7766D+10
59.979	5/2(16)*	1.940D-12	5/2(6)	9.8277D+10	1.8735D+10
60.108	1/2(13)	2.527D-12	1/2(6)*	2.2676D+11	1.2993D+11
60.250	7/2(24)*	5.166D-13	7/2(8)	2.8205D+11	4.1094D+10
60.379	7/2(11)	2.085D-12	7/2(5)*	1.5760D+11	5.1784D+10
60.555	1/2(10)	1.691D-12	1/2(4)*	9.2893D+10	1.4591D+10
60.559	7/2(11)*	3.413D-12	5/2(6)	7.4491D+10	1.8937D+10
60.613	3/2(26)*	7.663D-13	1/2(8)	1.1511D+11	1.0154D+10
60.703	5/2(31)*	2.266D-12	3/2(14)	1.7225D+11	6.7218D+10
60.861	3/2(14)*	1.569D-12	3/2(6)	1.3482D+11	2.8517D+10
60.946	9/2(5)*	2.649D-12	7/2(3)	2.9886D+11	2.3662D+11
60.975	9/2(3)	2.283D-12	9/2(1)*	6.6868D+10	1.0208D+10
60.978	7/2(22)*	1.775D-12	5/2(12)	2.9517D+11	1.5464D+11
60.980	7/2(24)*	5.166D-13	5/2(13)	1.8364D+11	1.7421D+10
61.010	1/2(13)	2.527D-12	3/2(9)*	9.8552D+10	2.4540D+10
61.012	5/2(1)*	2.829D-12	3/2(1)	3.3821D+11	3.2364D+11
61.150	5/2(16)*	1.940D-12	3/2(7)	1.1081D+11	2.3817D+10
61.442	5/2(14)*	2.789D-12	5/2(6)	1.0887D+11	3.3054D+10
61.447	7/2(12)*	2.760D-12	5/2(7)	1.5724D+11	6.8234D+10
61.512	9/2(15)*	6.394D-13	9/2(5)	1.9601D+11	2.4567D+10
61.659	9/2(15)*	6.394D-13	7/2(8)	7.2252D+11	3.3381D+11
61.685	7/2(25)*	3.208D-12	5/2(14)	1.0061D+11	3.2473D+10

Continued...

Table 6 (contd)

λ	Upper	τ	Lower	A	A_{br}
61.733	1/2(10)	1.691D-12	3/2(7)*	8.5276D+10	1.2296D+10
61.750	1/2(9)*	2.465D-12	3/2(6)	2.5175D+11	1.5624D+11
61.887	9/2(6)*	3.811D-12	7/2(4)	1.0381D+11	4.1061D+10
62.071	3/2(27)*	3.792D-13	3/2(13)	2.3186D+11	2.0387D+10
62.173	5/2(8)	2.269D-12	5/2(5)*	1.9182D+11	8.3471D+10
62.186	7/2(11)*	3.413D-12	7/2(4)	9.0258D+10	2.7802D+10
62.228	5/2(8)	2.269D-12	3/2(5)*	2.1476D+11	1.0463D+11
62.337	5/2(16)	2.330D-12	3/2(7)*	3.2125D+11	2.4051D+11
62.413	7/2(9)*	2.124D-12	7/2(1)	8.9328D+10	1.6950D+10
62.430	9/2(14)*	3.919D-12	7/2(9)	1.3770D+11	7.4303D+10
62.497	7/2(10)	2.249D-12	5/2(7)*	3.8818D+11	3.3893D+11
62.519	11/2(2)*	4.057D-12	9/2(2)	1.3489D+11	7.3817D+10
62.558	9/2(3)	2.283D-12	7/2(3)*	3.6227D+11	2.9962D+11
62.582	11/2(7)*	6.667D-13	9/2(5)	8.7500D+11	5.1043D+11
62.606	7/2(5)	2.333D-12	5/2(5)*	2.3893D+11	1.3317D+11
62.664	3/2(15)	2.302D-12	1/2(4)*	2.8960D+11	1.9305D+11
62.787	7/2(23)*	1.494D-13	5/2(13)	3.8975D+11	2.2690D+10
62.790	5/2(28)*	1.080D-13	3/2(13)	4.0092D+11	1.7356D+10
62.826	9/2(6)	2.338D-12	7/2(5)*	4.2067D+11	4.1367D+11
62.878	7/2(5)	2.333D-12	7/2(3)*	1.6204D+11	6.1248D+10
62.893	9/2(4)*	2.960D-12	9/2(1)	9.1064D+10	2.4550D+10
62.895	11/2(1)	2.386D-12	9/2(1)*	4.1915D+11	4.1915D+11
63.003	5/2(16)	2.330D-12	5/2(7)*	1.0168D+11	2.4094D+10
63.231	1/2(18)*	5.905D-13	1/2(9)	6.0760D+11	2.1799D+11
63.360	3/2(12)*	1.748D-12	3/2(4)	1.9543D+11	6.6763D+10
63.436	7/2(24)*	5.166D-13	5/2(15)	3.2506D+11	5.4582D+10
63.437	5/2(30)*	7.920D-13	5/2(15)	5.3513D+11	2.2681D+11
63.505	5/2(12)*	2.235D-12	5/2(4)	2.1689D+11	1.0514D+11
63.610	1/2(5)	9.236D-13	1/2(3)*	2.2916D+11	4.8500D+10
63.759	5/2(19)*	1.286D-12	3/2(9)	1.7415D+11	3.9016D+10
63.852	5/2(12)*	2.235D-12	3/2(5)	7.5313D+10	1.2677D+10
63.880	3/2(8)	1.844D-12	3/2(5)*	2.0844D+11	8.0115D+10
63.899	5/2(11)*	2.539D-12	3/2(4)	1.8169D+11	8.3810D+10
63.927	3/2(15)	2.302D-12	3/2(7)*	1.1497D+11	3.0425D+10
63.951	3/2(12)*	1.748D-12	1/2(2)	8.5037D+10	1.2641D+10
63.982	7/2(8)*	3.136D-12	5/2(4)	1.0652D+11	3.5586D+10

Continued...

Table 6 (contd)

λ	Upper	τ	Lower	A	A_{br}
64.162	1/2(12)*	1.890D-12	1/2(4)	2.8670D+11	1.5539D+11
64.221	5/2(19)*	1.286D-12	5/2(9)	9.3207D+10	1.1176D+10
64.239	3/2(8)	1.844D-12	1/2(3)*	8.1056D+10	1.2115D+10
64.285	7/2(15)*	3.094D-13	5/2(9)	3.0638D+11	2.9048D+10
64.306	7/2(9)*	2.124D-12	5/2(5)	2.1677D+11	9.9811D+10
64.322	3/2(27)*	3.792D-13	5/2(15)	2.4082D+11	2.1994D+10
64.436	5/2(1)	2.544D-12	3/2(1)*	3.9302D+11	3.9302D+11
64.436	9/2(3)*	2.232D-12	7/2(1)	3.7461D+11	3.1327D+11
64.463	7/2(16)*	1.615D-13	5/2(10)	2.5710D+11	1.0675D+10
64.497	9/2(4)*	2.960D-12	7/2(2)	1.9667D+11	1.1451D+11
64.686	7/2(7)	2.149D-12	7/2(4)*	8.7865D+10	1.6591D+10
64.779	9/2(9)*	3.221D-12	7/2(6)	2.4582D+11	1.9467D+11
64.853	11/2(1)*	3.253D-12	9/2(1)	2.5909D+11	2.1838D+11
64.967	3/2(16)	1.511D-12	1/2(5)*	1.0868D+11	1.7851D+10
64.981	5/2(11)*	2.539D-12	5/2(5)	1.1700D+11	3.4753D+10
65.135	3/2(18)*	4.490D-13	3/2(9)	1.5653D+11	1.1000D+10
65.246	7/2(8)*	3.136D-12	7/2(2)	9.5289D+10	2.8479D+10
65.321	3/2(11)	4.199D-13	3/2(6)*	1.5719D+11	1.0375D+10
65.631	1/2(12)*	1.890D-12	3/2(9)	7.9993D+10	1.2097D+10
65.814	5/2(17)	1.129D-12	3/2(8)*	1.6446D+11	3.0537D+10
65.912	7/2(7)	2.149D-12	5/2(6)*	1.5975D+11	5.4840D+10
66.093	9/2(17)*	4.109D-12	9/2(6)	5.0335D+10	1.0410D+10
66.151	7/2(11)	2.085D-12	5/2(8)*	2.3302D+11	1.1320D+11
66.262	9/2(4)	2.055D-12	7/2(4)*	2.3626D+11	1.1471D+11
66.316	3/2(11)*	1.241D-12	3/2(5)	1.6904D+11	3.5456D+10
66.390	1/2(7)*	6.128D-13	1/2(2)	1.3977D+11	1.1972D+10
66.424	3/2(16)	1.511D-12	3/2(8)*	1.2466D+11	2.3488D+10
66.448	5/2(11)	6.058D-13	5/2(6)*	1.3490D+11	1.1025D+10
66.773	1/2(17)*	7.187D-13	3/2(13)	2.1105D+11	3.2010D+10
67.115	1/2(10)	1.691D-12	1/2(5)*	1.6934D+11	4.8487D+10
67.311	7/2(13)*	4.659D-12	5/2(8)	1.3886D+11	8.9838D+10
67.409	7/2(26)*	4.170D-12	5/2(16)	1.5638D+11	1.0197D+11
67.587	3/2(17)*	1.340D-12	1/2(5)	1.0523D+11	1.4835D+10
67.591	5/2(17)*	3.340D-12	3/2(8)	9.6224D+10	3.0927D+10
67.654	11/2(4)*	4.926D-12	9/2(3)	1.1906D+11	6.9822D+10
67.718	9/2(7)*	5.212D-12	7/2(5)	1.3199D+11	9.0800D+10

Continued...

Table 6 (contd)

λ	Upper	τ	Lower	A	A_{br}
67.767	5/2(29)*	4.349D-12	3/2(15)	1.4444D+11	9.0741D+10
67.954	11/2(8)*	5.488D-12	9/2(6)	1.8209D+11	1.8195D+11
68.006	7/2(1)*	3.795D-12	5/2(1)	2.6353D+11	2.6353D+11
68.093	9/2(7)*	5.212D-12	9/2(3)	4.4049D+10	1.0112D+10
68.160	9/2(16)*	3.734D-12	7/2(10)	1.3258D+11	6.5641D+10
68.568	5/2(18)*	2.427D-12	3/2(11)	1.0682D+11	2.7687D+10
68.675	5/2(18)*	2.427D-12	5/2(11)	7.6397D+10	1.4163D+10
68.787	1/2(5)	9.236D-13	3/2(6)*	1.1575D+11	1.2375D+10
68.971	5/2(32)*	1.807D-12	3/2(16)	1.5079D+11	4.1076D+10
69.036	9/2(17)*	4.109D-12	7/2(11)	1.1089D+11	5.0524D+10
69.122	7/2(27)*	2.172D-12	5/2(17)	1.7338D+11	6.5287D+10
69.150	9/2(8)*	3.225D-12	7/2(7)	1.6835D+11	9.1391D+10
69.207	7/2(14)*	2.951D-12	5/2(11)	1.2565D+11	4.6589D+10
69.252	3/2(28)*	1.482D-12	1/2(10)	1.1493D+11	1.9580D+10
70.103	11/2(3)*	3.329D-12	9/2(4)	1.5770D+11	8.2779D+10
70.135	9/2(16)*	3.734D-12	7/2(11)	7.6629D+10	2.1927D+10
80.548	9/2(2)*	1.291D-11	9/2(1)	3.3492D+10	1.4483D+10
81.699	7/2(10)*	1.260D-11	7/2(6)	3.2791D+10	1.3553D+10
109.548	5/2(3)	7.411D-12	7/2(2)*	6.1304D+10	2.7852D+10
109.875	5/2(3)	7.411D-12	5/2(3)*	3.9629D+10	1.1639D+10
115.253	1/2(1)*	1.841D-11	1/2(1)	5.4304D+10	5.4304D+10
121.645	5/2(3)*	5.255D-11	5/2(2)	1.8598D+10	1.8177D+10
121.810	5/2(4)*	4.032D-11	3/2(2)	2.1041D+10	1.7849D+10
122.048	7/2(2)*	4.765D-11	5/2(2)	2.0832D+10	2.0676D+10
124.213	1/2(6)*	1.181D-11	3/2(6)	3.1259D+10	1.1536D+10

Table 7Energy levels (cm^{-1}) and lifetimes (s) in Pt^{48+} (Zn-like).

Occ	$J(\text{No})^P$	E	τ
462000000	0(1)	0	0.000D+00
461100000	0(1)*	771173	0.000D+00
461100000	1(1)*	833000	4.564D-11
460200000	0(2)	1755554	7.091D-12
461010000	2(1)*	1838490	9.353D-08
461010000	1(2)*	1984643	9.865D-13
460110000	1(1)	2767834	1.278D-12
460110000	2(1)	2780977	2.237D-12
461001000	1(2)	3229938	7.647D-13
461001000	2(2)	3263093	6.768D-13
461000100	3(1)	3455080	2.235D-12
461000100	2(3)	3517918	2.044D-12
460020000	2(4)	3876837	6.334D-13
460020000	0(3)	3936626	7.362D-13
460101000	2(2)*	4042594	1.180D-11
460101000	1(3)*	4187782	5.607D-13
460100100	2(3)*	4347605	2.028D-12
460100100	3(1)*	4348919	3.030D-12
461000010	3(2)*	4906031	3.725D-12
461000010	2(4)*	4915630	2.418D-12
461000001	4(1)*	4966395	5.230D-12
461000001	3(3)*	4995442	2.804D-12
460011000	2(5)*	5171547	5.041D-13
460011000	0(2)*	5197985	5.195D-13
460011000	1(4)*	5208329	5.058D-13
460011000	3(4)*	5238172	5.013D-13
460010100	4(2)*	5343751	1.251D-12
460010100	2(6)*	5392005	9.451D-13
460010100	3(5)*	5505221	6.322D-13
460010100	1(5)*	5518454	8.318D-13
460100010	3(2)	5768593	2.240D-12
460100010	2(5)	5816054	2.348D-12
460100001	3(3)	5853928	2.802D-12
460100001	4(1)	5856598	3.986D-12
460002000	2(6)	6522453	3.909D-13

Continued...

Table 7 (contd)

Occ	J(No) ^P	E	τ
460002000	0(4)	6598949	3.983D-13
460001100	3(4)	6715064	6.897D-13
460001100	4(2)	6725472	8.670D-13
460001100	2(7)	6750534	6.504D-13
460001100	1(3)	6782568	5.796D-13
460010010	3(5)	6843949	8.024D-13
460010001	4(3)	6857337	1.447D-12
460010010	2(8)	6873587	8.089D-13
460010010	1(4)	6888815	8.797D-13
460010001	5(1)	6902070	1.114D-12
460010010	4(4)	6914720	7.653D-13
460010001	3(6)	6915524	9.174D-13
460010001	2(9)	6950360	1.057D-12
460000200	2(10)	7054416	9.267D-13
460000200	4(5)	7067957	7.411D-13
460000200	0(5)	7092659	1.096D-12
460001010	4(3)*	8120302	8.421D-13
460001010	2(7)*	8157209	6.421D-13
460001010	3(6)*	8216237	5.940D-13
460001001	4(4)*	8217101	7.347D-13
460001001	5(1)*	8234682	9.555D-13
460001001	3(7)*	8254168	6.186D-13
460001010	1(6)*	8272015	5.688D-13
460001001	2(8)*	8285579	6.250D-13
460000110	4(5)*	8398885	1.301D-12
460000101	6(1)*	8408712	2.643D-12
460000110	2(9)*	8418872	1.188D-12
460000110	3(8)*	8423254	1.053D-12
460000101	4(6)*	8429078	1.301D-12
460000110	5(2)*	8458049	1.028D-12
460000110	1(7)*	8465525	1.141D-12
460000110	0(3)*	8467324	1.160D-12
460000101	2(10)*	8495409	1.284D-12
460000101	3(9)*	8531263	1.183D-12
460000101	5(3)*	8556358	1.031D-12
460000101	1(8)*	8598299	1.178D-12

Continued..

Table 7 (contd)

Occ	J(No) ^P	E	τ
460000020	4(6)	9842698	1.335D-12
460000020	2(11)	9874973	1.218D-12
460000011	5(2)	9897556	1.537D-12
460000011	4(7)	9916919	1.430D-12
460000011	3(7)	9919098	1.385D-12
460000002	6(1)	9938160	1.694D-12
460000020	0(6)	9960746	1.128D-12
460000011	2(12)	9967922	1.289D-12
460000002	4(8)	9979512	1.643D-12
460000011	1(5)	9990975	1.270D-12
460000011	6(2)	9991882	1.863D-12
460000002	2(13)	10036046	1.476D-12
460000002	0(7)	10145545	1.228D-12

Table 8Transitions in Pt⁴⁸⁺ (Zn-like).

λ	Upper	τ	Lower	A	A_{br}
37.245	2(3)	2.046D-12	1(1)*	9.2778D+10	1.7612D+10
38.974	4(4)	7.656D-13	3(1)*	1.8451D+11	2.6062D+10
40.232	3(7)*	6.188D-13	3(2)	2.3790D+11	3.5020D+10
40.325	2(6)	3.910D-13	2(2)*	1.1747D+12	5.3950D+11
40.671	1(2)	7.647D-13	0(1)*	8.4105D+11	5.4092D+11
40.697	3(4)*	5.014D-13	2(1)	8.2611D+11	3.4217D+11
40.717	1(6)*	5.691D-13	2(5)	1.2111D+12	8.3467D+11
40.856	3(6)*	5.942D-13	3(2)	4.6503D+11	1.2849D+11
40.975	1(4)*	5.059D-13	1(1)	1.0161D+12	5.2232D+11
41.015	3(7)*	6.188D-13	2(5)	1.4022D+11	1.2166D+10
41.068	1(3)	5.798D-13	2(3)*	1.2244D+12	8.6925D+11
41.115	1(3)*	5.608D-13	0(2)	1.6660D+12	1.5564D+12
41.124	2(8)*	6.251D-13	3(3)	1.2352D+12	9.5374D+11
41.150	0(2)*	5.196D-13	1(1)	1.2213D+12	7.7500D+11
41.151	2(2)	6.769D-13	1(1)*	1.4527D+12	1.4284D+12
41.197	1(4)*	5.059D-13	2(1)	1.5053D+11	1.1463D+10
41.474	0(4)	3.983D-13	1(3)*	2.4041D+12	2.3022D+12
41.602	2(5)*	5.042D-13	1(1)	6.3180D+11	2.0124D+11
41.616	2(7)	6.506D-13	2(3)*	8.6114D+11	4.8246D+11
41.639	2(7)	6.506D-13	3(1)*	2.4451D+11	3.8896D+10
41.663	3(7)*	6.188D-13	3(3)	5.7980D+11	2.0801D+11
41.663	3(6)*	5.942D-13	2(5)	2.4728D+11	3.6335D+10
41.709	3(7)*	6.188D-13	4(1)	1.9440D+11	2.3385D+10
41.720	1(2)	7.647D-13	1(1)*	4.3859D+11	1.4710D+11
41.831	2(5)*	5.042D-13	2(1)	7.5466D+11	2.8712D+11
41.865	2(7)*	6.424D-13	3(2)	2.8841D+11	5.3436D+10
42.051	5(1)*	9.559D-13	4(1)	8.4753D+11	6.8660D+11
42.078	4(2)	8.674D-13	3(1)*	8.5152D+11	6.2892D+11
42.239	3(4)	6.899D-13	2(3)*	4.6914D+11	1.5185D+11
42.263	3(4)	6.899D-13	3(1)*	6.3282D+11	2.7628D+11
42.316	4(4)*	7.349D-13	3(3)	4.1560D+11	1.2693D+11
42.331	3(6)*	5.942D-13	3(3)	2.9228D+11	5.0759D+10
42.364	4(4)*	7.349D-13	4(1)	6.9929D+11	3.5935D+11
42.522	4(3)*	8.426D-13	3(2)	1.1226D+12	1.0620D+12
42.714	2(7)*	6.424D-13	2(5)	1.0269D+12	6.7744D+11

Continued...

Table 8 (contd)

λ	Upper	τ	Lower	A	A_{br}
42.833	2(6)	3.910D-13	1(3)*	1.2987D+12	6.5937D+11
47.058	3(2)*	3.730D-12	2(1)	1.2271D+11	5.6172D+10
48.568	2(10)	9.270D-13	3(3)*	2.6507D+11	6.5134D+10
48.777	3(5)*	6.323D-13	3(1)	3.2479D+11	6.6703D+10
49.059	2(4)	6.334D-13	2(1)*	6.1126D+11	2.3666D+11
49.987	1(5)*	8.320D-13	2(3)	5.8276D+11	2.8255D+11
50.084	1(1)	1.278D-12	0(1)*	4.7488D+11	2.8825D+11
50.319	3(5)*	6.323D-13	2(3)	2.2792D+11	3.2848D+10
50.387	1(2)*	9.865D-13	0(1)	1.0136D+12	1.0136D+12
50.546	1(4)*	5.059D-13	1(2)	5.7399D+11	1.6666D+11
50.631	3(4)*	5.014D-13	2(2)	1.0477D+12	5.5037D+11
50.679	1(4)	8.801D-13	2(4)*	7.0933D+11	4.4282D+11
50.812	0(2)*	5.196D-13	1(2)	7.0337D+11	2.5704D+11
50.824	2(8)	8.092D-13	3(2)*	1.2669D+11	1.2987D+10
51.074	2(8)	8.092D-13	2(4)*	4.9909D+11	2.0157D+11
51.153	2(9)	1.057D-12	3(3)*	4.1050D+11	1.7817D+11
51.230	0(3)	7.362D-13	1(2)*	1.3467D+12	1.3353D+12
51.305	3(6)	9.176D-13	4(1)*	1.6677D+11	2.5520D+10
51.335	2(1)	2.237D-12	1(1)*	3.9434D+11	3.4793D+11
51.408	1(4)*	5.059D-13	2(2)	1.7862D+11	1.6138D+10
51.504	2(5)*	5.042D-13	1(2)	4.0175D+11	8.1373D+10
51.602	3(5)	8.027D-13	3(2)*	3.0993D+11	7.7100D+10
51.628	2(6)*	9.454D-13	3(1)	1.5481D+11	2.2656D+10
51.662	5(1)	1.114D-12	4(1)*	4.6557D+11	2.4155D+11
51.684	1(1)	1.278D-12	1(1)*	2.4673D+11	7.7811D+10
51.859	3(5)	8.027D-13	2(4)*	1.5367D+11	1.8954D+10
52.081	3(6)	9.176D-13	3(3)*	4.7940D+11	2.1088D+11
52.398	2(5)*	5.042D-13	2(2)	1.6747D+11	1.4140D+10
52.849	2(4)	6.334D-13	1(2)*	9.5941D+11	5.8303D+11
52.884	4(3)	1.447D-12	4(1)*	3.3479D+11	1.6220D+11
52.947	4(2)*	1.251D-12	3(1)	7.9924D+11	7.9924D+11
53.359	2(6)*	9.454D-13	2(3)	6.7316D+11	4.2839D+11
53.709	4(3)	1.447D-12	3(3)*	1.8907D+11	5.1727D+10
54.962	4(2)	8.674D-13	3(2)*	2.2605D+11	4.4320D+10
56.387	2(5)	2.351D-12	2(2)*	9.2623D+10	2.0169D+10
57.717	5(2)*	1.028D-12	4(2)	1.0085D+11	1.0459D+10

Continued..

Table 8 (contd)

λ	Upper	τ	Lower	A	A_{br}
57.725	3(3)*	2.805D-12	2(2)	7.2250D+10	1.4642D+10
57.746	3(7)*	6.188D-13	2(6)	2.0171D+11	2.5176D+10
57.937	3(2)	2.240D-12	2(2)*	3.7251D+11	3.1089D+11
58.059	4(6)	1.336D-12	4(3)*	1.9739D+11	5.2069D+10
58.215	2(11)	1.220D-12	2(7)*	4.6034D+11	2.5847D+11
58.351	2(12)	1.290D-12	3(7)*	9.7845D+10	1.2352D+10
58.541	3(8)*	1.054D-12	3(4)	2.3079D+11	5.6140D+10
58.637	1(5)	1.271D-12	2(8)*	3.6654D+11	1.7077D+11
58.725	3(7)	1.386D-12	3(6)*	1.1301D+11	1.7706D+10
58.830	4(7)	1.432D-12	4(4)*	2.6048D+11	9.7139D+10
59.039	3(6)*	5.942D-13	2(6)	4.7883D+11	1.3623D+11
59.143	1(4)	8.801D-13	0(2)*	1.9343D+11	3.2928D+10
59.216	0(6)	1.130D-12	1(6)*	7.9867D+11	7.2049D+11
59.323	2(4)*	2.421D-12	1(2)	3.0952D+11	2.3189D+11
59.356	0(3)*	1.161D-12	1(3)	3.8599D+11	1.7296D+11
59.389	4(5)*	1.302D-12	3(4)	1.2344D+11	1.9834D+10
59.419	1(7)*	1.142D-12	1(3)	2.6298D+11	7.8955D+10
59.441	2(12)	1.290D-12	2(8)*	2.8398D+11	1.0405D+11
59.507	1(4)	8.801D-13	1(4)*	1.7696D+11	2.7560D+10
59.508	5(2)	1.538D-12	4(4)*	1.2567D+11	2.4297D+10
59.544	2(3)	2.046D-12	2(1)*	1.5667D+11	5.0219D+10
59.646	4(4)	7.656D-13	3(4)*	9.2992D+11	6.6204D+11
59.758	4(5)*	1.302D-12	4(2)	1.2990D+11	2.1963D+10
59.771	1(6)*	5.691D-13	0(4)	3.7355D+11	7.9407D+10
59.783	3(8)*	1.054D-12	2(7)	1.4794D+11	2.3068D+10
59.794	3(5)	8.027D-13	2(5)*	5.6760D+11	2.5859D+11
59.940	2(9)*	1.189D-12	2(7)	3.1937D+11	1.2131D+11
60.051	2(8)	8.092D-13	1(4)*	3.9821D+11	1.2832D+11
60.063	3(7)	1.386D-12	3(7)*	2.2304D+11	6.8964D+10
60.137	5(2)	1.538D-12	5(1)*	1.5834D+11	3.8571D+10
60.154	2(10)	9.270D-13	2(6)*	1.6953D+11	2.6643D+10
60.287	2(11)	1.220D-12	3(6)*	1.0796D+11	1.4217D+10
60.513	2(4)*	2.421D-12	2(2)	7.4218D+10	1.3333D+10
60.682	1(8)*	1.179D-12	2(9)	1.4456D+11	2.4632D+10
60.867	3(2)*	3.730D-12	2(2)	1.2961D+11	6.2664D+10
60.916	1(5)*	8.320D-13	2(4)	1.1763D+11	1.1513D+10

Continued..

Table 8 (contd)

λ	Upper	τ	Lower	A	A_{br}
61.113	2(9)*	1.189D-12	1(3)	1.4367D+11	2.4550D+10
61.171	2(7)*	6.424D-13	2(6)	1.7905D+11	2.0596D+10
61.411	3(5)*	6.323D-13	2(4)	9.6081D+11	5.8374D+11
61.415	2(5)	2.351D-12	1(3)*	2.4808D+11	1.4468D+11
61.483	4(6)	1.336D-12	3(6)*	3.4161D+11	1.5595D+11
61.859	3(1)	2.235D-12	2(1)*	4.4749D+11	4.4749D+11
61.891	3(9)*	1.183D-12	3(6)	2.4364D+11	7.0230D+10
62.385	2(11)	1.220D-12	1(6)*	1.9118D+11	4.4579D+10
62.817	1(7)*	1.142D-12	2(8)	2.5385D+11	7.3568D+10
62.951	4(6)	1.336D-12	3(7)*	1.6984D+11	3.8546D+10
63.086	4(6)*	1.301D-12	3(5)	9.6214D+10	1.2047D+10
63.108	1(3)	5.798D-13	0(2)*	2.1523D+11	2.6858D+10
63.218	1(5)*	8.320D-13	0(3)	4.5174D+11	1.6978D+11
63.266	4(8)	1.644D-12	4(5)*	1.1335D+11	2.1120D+10
63.296	2(10)*	1.285D-12	3(6)	1.8481D+11	4.3872D+10
63.300	2(3)*	2.029D-12	1(1)	3.6988D+11	2.7759D+11
63.332	2(7)	6.506D-13	2(5)*	2.0220D+11	2.6599D+10
63.351	0(3)*	1.161D-12	1(4)	4.7210D+11	2.5873D+11
63.423	1(7)*	1.142D-12	1(4)	3.0301D+11	1.0482D+11
63.495	2(9)*	1.189D-12	3(5)	1.1078D+11	1.4595D+10
63.523	1(3)	5.798D-13	1(4)*	2.0668D+11	2.4766D+10
63.524	0(5)	1.097D-12	1(5)*	8.8154D+11	8.5265D+11
63.609	1(5)	1.271D-12	2(9)*	9.5646D+10	1.1628D+10
63.624	4(6)*	1.301D-12	4(3)	3.0713D+11	1.2276D+11
63.778	3(1)*	3.032D-12	2(1)	2.7773D+11	2.3391D+11
63.990	4(5)	7.414D-13	3(5)*	1.0422D+12	8.0526D+11
64.170	2(9)	1.057D-12	2(6)*	4.4332D+11	2.0779D+11
64.172	5(1)	1.114D-12	4(2)*	4.3178D+11	2.0776D+11
64.311	4(5)*	1.302D-12	3(5)	3.6548D+11	1.7386D+11
64.498	4(8)	1.644D-12	4(6)*	1.7100D+11	4.8069D+10
64.530	3(8)*	1.054D-12	2(8)	3.1558D+11	1.0497D+11
64.550	2(10)	9.270D-13	3(5)*	1.0764D+11	1.0741D+10
64.556	2(12)	1.290D-12	2(9)*	1.1967D+11	1.8475D+10
64.631	0(7)	1.229D-12	1(8)*	7.2669D+11	6.4880D+11
64.713	2(9)*	1.189D-12	2(8)	1.0293D+11	1.2600D+10
64.723	2(10)*	1.285D-12	2(9)	5.1532D+11	3.4113D+11

Continued..

Table 8 (contd)

λ	Upper	τ	Lower	A	A_{br}
64.772	1(8)*	1.179D-12	2(10)	3.7193D+11	1.6306D+11
64.795	5(2)*	1.028D-12	4(4)	6.9738D+11	5.0013D+11
64.908	2(13)	1.477D-12	2(10)*	3.5580D+11	1.8697D+11
65.106	2(10)	9.270D-13	1(5)*	4.9492D+11	2.2707D+11
65.220	2(3)	2.046D-12	1(2)*	2.3931D+11	1.1717D+11
65.383	6(1)	1.696D-12	6(1)*	1.0267D+11	1.7874D+10
65.554	1(5)	1.271D-12	1(7)*	1.6575D+11	3.4918D+10
65.632	1(5)	1.271D-12	0(3)*	1.4552D+11	2.6917D+10
65.638	3(6)	9.176D-13	2(6)*	2.6159D+11	6.2791D+10
65.999	2(6)*	9.454D-13	2(4)	1.6967D+11	2.7214D+10
66.068	4(3)	1.447D-12	4(2)*	1.1272D+11	1.8387D+10
66.070	4(6)*	1.301D-12	3(6)	2.3398D+11	7.1245D+10
66.168	4(1)*	5.236D-12	3(1)	1.9099D+11	1.9099D+11
66.260	5(1)*	9.559D-13	4(2)	1.4526D+11	2.0168D+10
66.327	4(1)	3.988D-12	3(1)*	1.8332D+11	1.3401D+11
66.373	6(1)*	2.646D-12	5(1)	3.7798D+11	3.7798D+11
66.387	3(3)	2.803D-12	2(3)*	2.6588D+11	1.9814D+11
66.417	1(8)*	1.179D-12	0(5)	2.7597D+11	8.9774D+10
66.455	2(13)	1.477D-12	3(9)*	1.3764D+11	2.7982D+10
66.533	2(8)*	6.251D-13	1(3)	1.8957D+11	2.2464D+10
66.560	2(12)	1.290D-12	1(7)*	9.6848D+10	1.2101D+10
66.576	4(4)*	7.349D-13	3(4)	1.6208D+11	1.9304D+10
66.657	3(7)	1.386D-12	2(9)*	1.5057D+11	3.1427D+10
66.726	5(2)	1.538D-12	4(5)*	1.8590D+11	5.3164D+10
66.949	4(7)	1.432D-12	3(8)*	2.6048D+11	9.7139D+10
67.186	5(3)*	1.031D-12	4(5)	8.2366D+11	6.9958D+11
67.563	6(1)	1.696D-12	5(2)*	4.3850D+11	3.2605D+11
67.681	3(3)*	2.805D-12	2(3)	2.0917D+11	1.2272D+11
67.712	3(9)*	1.183D-12	2(10)	4.0935D+11	1.9826D+11
68.098	5(2)	1.538D-12	4(6)*	1.6662D+11	4.2711D+10
69.049	4(8)	1.644D-12	3(9)*	2.7749D+11	1.2658D+11
69.553	2(13)	1.477D-12	1(8)*	8.8441D+10	1.1553D+10
69.661	6(2)	1.864D-12	5(3)*	4.7717D+11	4.2443D+11
79.263	2(2)*	1.183D-11	2(1)	4.5971D+10	2.5007D+10
108.395	0(2)	7.091D-12	1(1)*	1.4103D+11	1.4103D+11
120.048	1(1)*	4.564D-11	0(1)	2.1911D+10	2.1911D+10

Table 9Energy levels (cm^{-1}) and lifetimes (s) in Pt^{47+} (Ga-like).

Occ	$J(\text{No})^P$	E	τ
462100000	1/2(1)*	0	0.000D+00
461200000	1/2(1)	865087	2.616D-11
462010000	3/2(1)*	1049128	7.947D-08
461110000	3/2(1)	1797387	1.257D-10
461110000	5/2(1)	1870960	5.877D-11
461110000	3/2(2)	1973877	1.732D-12
461110000	1/2(2)	1992816	8.956D-13
462001000	3/2(3)	2463062	5.444D-13
462001000	5/2(2)	2659748	3.328D-12
460210000	3/2(2)*	2838388	2.033D-12
461020000	5/2(3)	2911081	1.974D-12
461020000	1/2(3)	3041354	1.292D-12
461020000	3/2(4)	3070916	6.184D-13
461101000	3/2(3)*	3145293	1.268D-11
461101000	5/2(1)*	3209377	2.203D-11
461101000	1/2(2)*	3321868	5.383D-13
461101000	3/2(4)*	3334136	5.170D-13
461100100	5/2(2)*	3436553	2.343D-12
461100100	7/2(1)*	3484455	3.180D-12
461100100	5/2(3)*	3534166	2.807D-12
461100100	3/2(5)*	3544401	1.670D-12
460120000	3/2(6)*	3874282	6.251D-13
460120000	5/2(4)*	3878763	1.005D-12
460120000	1/2(3)*	3935958	9.298D-13
462000010	5/2(5)*	4122178	3.469D-12
460201000	3/2(5)	4155925	5.787D-12
462000001	7/2(2)*	4187940	3.505D-12
461011000	3/2(7)*	4267341	6.915D-13
461011000	1/2(4)*	4267988	7.622D-13
461011000	5/2(6)*	4268637	6.131D-13
461011000	7/2(3)*	4309332	8.167D-13
461011000	3/2(8)*	4392468	4.909D-13
461010100	9/2(1)*	4396347	1.020D-07
460200100	5/2(4)	4428572	2.505D-12
461011000	1/2(5)*	4462382	3.842D-13

Continued...

Table 9 (contd)

Occ	J(No) ^P	E	τ
461011000	5/2(8)*	4484718	3.460D-13
461010100	5/2(7)*	4495923	1.725D-12
461010100	3/2(9)*	4539947	1.344D-12
461010100	7/2(4)*	4552685	1.477D-12
461010100	7/2(5)*	4632475	6.729D-13
461010100	1/2(6)*	4655138	1.287D-12
461010100	3/2(10)*	4687853	6.925D-13
461010100	5/2(9)*	4718969	5.595D-13
461100010	5/2(5)	4898930	3.044D-12
461100010	7/2(1)	4937549	5.737D-12
461100001	7/2(2)	4973794	4.926D-12
461100010	5/2(6)	4984670	2.663D-12
461100010	3/2(6)	4993612	2.511D-12
460030000	3/2(11)*	5017795	3.996D-13
461100001	9/2(1)	5031384	5.361D-12
461100001	7/2(3)	5043064	3.523D-12
461100001	5/2(7)	5051998	2.445D-12
460111000	5/2(8)	5127179	1.544D-12
460111000	3/2(7)	5140776	1.127D-12
460111000	1/2(4)	5141761	1.235D-12
460111000	7/2(4)	5206175	1.084D-12
460111000	3/2(8)	5279693	4.285D-13
460111000	1/2(5)	5298680	4.610D-13
460111000	5/2(9)	5302998	4.559D-13
460110100	7/2(5)	5360192	1.162D-12
460110100	9/2(2)	5386972	1.981D-12
460110100	3/2(9)	5410365	1.022D-12
460110100	5/2(10)	5421790	1.144D-12
460110100	7/2(6)	5513656	9.195D-13
460110100	5/2(11)	5528810	6.153D-13
460110100	3/2(10)	5535489	9.887D-13
460110100	1/2(6)	5541225	1.011D-12
461002000	3/2(11)	5669997	3.528D-13
461002000	5/2(12)	5713575	3.361D-13
461002000	1/2(7)	5767961	3.500D-13
461001100	7/2(7)	5854443	8.153D-13

Continued...

Table 9 (contd)

Occ	J(No) ^P	E	τ
461001100	5/2(13)	5876382	7.106D-13
461001100	9/2(3)	5885058	9.482D-13
460200010	5/2(10)*	5897087	2.024D-12
461001100	3/2(12)	5903094	6.215D-13
461001100	7/2(8)	5921161	7.962D-13
461001100	3/2(13)	5946183	7.479D-13
461001100	5/2(14)	5956404	6.736D-13
460200001	7/2(6)*	5971700	2.930D-12
461010010	7/2(9)	5975807	9.292D-13
461010001	9/2(4)	5984591	2.714D-12
461010010	1/2(8)	5993098	1.491D-12
461010010	5/2(15)	5995095	6.610D-13
461010010	3/2(14)	6006316	1.005D-12
461010001	11/2(1)	6011017	2.851D-12
461001100	1/2(9)	6011977	5.332D-13
461010001	7/2(10)	6012332	2.379D-12
461000200	9/2(5)	6040575	8.805D-13
461010001	5/2(16)	6053346	1.763D-12
461010010	5/2(17)	6094819	7.888D-13
461010001	3/2(15)	6109618	1.351D-12
461010001	7/2(11)	6121499	7.515D-13
461010010	3/2(16)	6123743	7.286D-13
461000200	7/2(12)	6134106	9.267D-13
461000200	5/2(18)	6144441	8.656D-13
461010001	9/2(6)	6157034	9.607D-13
461000200	9/2(7)	6206521	8.488D-13
461010001	5/2(19)	6239378	8.081D-13
461000200	3/2(17)	6243863	9.288D-13
461000200	1/2(10)	6252761	1.011D-12
461000200	7/2(13)	6276243	6.903D-13
460021000	3/2(18)	6285939	3.445D-13
460021000	5/2(20)	6335583	3.411D-13
460021000	1/2(11)	6336367	3.338D-13
460021000	7/2(14)	6409521	3.087D-13
460021000	3/2(19)	6434077	3.419D-13
460102000	5/2(11)*	6451494	1.608D-12

Continued...

Table 9 (contd)

Occ	J(No) ^P	E	τ
460020100	9/2(8)	6471905	5.402D-13
460020100	7/2(15)	6476451	5.158D-13
460020100	1/2(12)	6515759	5.069D-13
460020100	5/2(21)	6564778	6.215D-13
460102000	1/2(7)*	6597901	7.042D-13
460102000	3/2(12)*	6622163	3.768D-13
460020100	3/2(20)	6649743	4.156D-13
460020100	5/2(22)	6682455	3.758D-13
460101100	7/2(7)*	6688828	3.000D-12
460101100	5/2(12)*	6707113	2.204D-12
460101100	9/2(2)*	6713743	3.941D-12
460101100	3/2(13)*	6733205	1.801D-12
460101100	1/2(8)*	6749107	1.755D-12
460101100	7/2(8)*	6830623	6.719D-13
460101100	5/2(13)*	6837076	5.700D-13
460110010	7/2(9)*	6875388	9.722D-13
460101100	3/2(14)*	6877151	5.326D-13
460110010	5/2(14)*	6889379	8.107D-13
460110001	7/2(10)*	6908239	1.480D-12
460110010	3/2(15)*	6912603	7.328D-13
460110001	9/2(3)*	6920970	1.429D-12
460110010	5/2(15)*	6932463	9.043D-13
460110010	9/2(4)*	6941502	1.227D-12
460110001	9/2(5)*	6956813	1.126D-12
460110010	3/2(16)*	6957132	9.808D-13
460110001	11/2(1)*	6966538	1.533D-12
460110001	7/2(11)*	6967008	1.098D-12
460110001	5/2(16)*	6970720	9.198D-13
460110010	1/2(9)*	6971846	1.071D-12
460100200	7/2(12)*	6984982	7.181D-13
460110001	3/2(17)*	6998642	1.258D-12
460100200	5/2(17)*	7007369	1.216D-12
460100200	9/2(6)*	7095300	1.034D-12
460100200	5/2(18)*	7095687	1.086D-12
460100200	3/2(18)*	7103708	1.007D-12
460100200	7/2(13)*	7121611	6.765D-13

Continued...

Table 9 (contd)

Occ	J(No) ^P	E	τ
460100200	1/2(10)*	7133206	1.214D-12
461001010	7/2(14)*	7305001	7.859D-13
461001010	9/2(7)*	7342647	7.131D-13
461001010	3/2(19)*	7348059	5.768D-13
461001010	5/2(19)*	7353023	5.836D-13
461001010	7/2(15)*	7392333	5.769D-13
461001001	7/2(16)*	7406248	6.786D-13
461001001	9/2(8)*	7410774	6.758D-13
461001010	5/2(20)*	7420268	4.806D-13
461001001	11/2(2)*	7434050	8.500D-13
461001001	5/2(21)*	7444134	6.302D-13
461001010	3/2(20)*	7451872	5.583D-13
461001001	7/2(17)*	7461193	5.563D-13
461001001	9/2(9)*	7468756	7.629D-13
461001010	1/2(11)*	7472823	5.075D-13
461001001	5/2(22)*	7489162	5.503D-13
461001001	3/2(21)*	7503931	5.471D-13
461000110	9/2(10)*	7568165	1.254D-12
461000110	7/2(18)*	7585921	1.049D-12
461000110	5/2(23)*	7594164	1.045D-12
461000110	11/2(3)*	7603570	1.371D-12
460012000	3/2(22)*	7610911	4.856D-13
461000101	9/2(11)*	7612423	1.341D-12
461000110	7/2(19)*	7615721	9.821D-13
460012000	3/2(23)*	7625615	4.231D-13
461000110	1/2(12)*	7637451	1.051D-12
461000110	5/2(24)*	7639635	1.049D-12
460012000	1/2(13)*	7648582	3.195D-13
461000101	11/2(4)*	7648800	2.016D-12
461000101	7/2(20)*	7649542	1.307D-12
461000110	3/2(24)*	7653707	1.132D-12
460012000	5/2(25)*	7670568	4.894D-13
460012000	5/2(26)*	7684587	4.815D-13
461000110	1/2(14)*	7691402	9.224D-13
461000110	9/2(12)*	7693888	9.152D-13
461000101	3/2(25)*	7703553	1.079D-12

Continued...

Table 9 (contd)

Occ	$J(\text{No})^P$	E	τ
461000101	7/2(21)*	7712338	8.695D-13
460012000	7/2(22)*	7718283	3.466D-13
461000101	11/2(5)*	7718808	1.270D-12
460012000	3/2(26)*	7743168	3.149D-13
461000101	5/2(27)*	7751301	1.047D-12
460011100	9/2(13)*	7760534	6.717D-13
460011100	7/2(23)*	7781974	4.471D-13
461000101	1/2(15)*	7792587	9.317D-13
460011100	9/2(14)*	7795588	5.662D-13
461000101	3/2(27)*	7796886	1.191D-12
460011100	5/2(28)*	7815203	4.698D-13
460011100	1/2(16)*	7828662	4.325D-13
460011100	3/2(28)*	7847374	4.085D-13
460011100	11/2(6)*	7856918	5.070D-13
460011100	7/2(24)*	7857333	4.685D-13
460011100	5/2(29)*	7858879	4.319D-13
460020010	9/2(15)*	7876560	5.539D-13
460011100	5/2(30)*	7914689	4.856D-13
460011100	7/2(25)*	7917707	4.105D-13
460011100	3/2(29)*	7948370	3.870D-13
460020001	11/2(7)*	7955138	7.304D-13

Table 10Transitions in Pt⁴⁷⁺ (Ga-like).

λ	Upper	τ	Lower	A	A_{br}
36.737	9/2(7)	8.491D-13	7/2(1)*	1.3510D+11	1.5496D+10
37.133	7/2(13)*	6.767D-13	5/2(4)	1.2827D+11	1.1134D+10
37.210	11/2(5)*	1.271D-12	9/2(1)	1.1034D+11	1.5477D+10
37.289	7/2(4)*	1.478D-12	5/2(1)	1.6356D+11	3.9547D+10
37.323	3/2(5)*	1.671D-12	1/2(1)	1.7089D+11	4.8806D+10
38.462	7/2(12)	9.272D-13	5/2(3)*	1.7074D+11	2.7030D+10
38.970	3/2(9)*	1.345D-12	3/2(2)	1.3615D+11	2.4936D+10
38.983	3/2(15)	1.351D-12	3/2(5)*	2.3983D+11	7.7722D+10
39.102	5/2(26)*	4.817D-13	5/2(8)	2.2352D+11	2.4065D+10
39.117	7/2(12)*	7.184D-13	5/2(4)	2.8089D+11	5.6679D+10
39.122	9/2(5)	8.806D-13	7/2(1)*	2.0835D+11	3.8228D+10
39.170	3/2(20)*	5.584D-13	5/2(5)	1.4019D+11	1.0975D+10
39.260	3/2(9)*	1.345D-12	1/2(2)	1.7753D+11	4.2401D+10
39.318	5/2(25)*	4.895D-13	5/2(8)	1.8456D+11	1.6673D+10
39.382	7/2(9)	9.295D-13	5/2(2)*	1.4249D+11	1.8873D+10
39.514	7/2(14)	3.087D-13	5/2(4)*	7.0727D+11	1.5443D+11
39.548	3/2(16)*	9.814D-13	5/2(4)	1.2280D+11	1.4799D+10
39.609	3/2(11)	3.528D-13	3/2(3)*	1.2446D+12	5.4642D+11
39.661	5/2(20)*	4.807D-13	5/2(5)	3.7242D+11	6.6667D+10
39.685	5/2(14)	6.737D-13	5/2(2)*	2.0635D+11	2.8687D+10
39.807	7/2(22)*	3.466D-13	7/2(4)	7.2925D+11	1.8434D+11
39.827	5/2(8)*	3.461D-13	3/2(2)	1.0043D+12	3.4906D+11
39.847	3/2(13)	7.481D-13	5/2(2)*	1.9725D+11	2.9106D+10
39.875	1/2(13)*	3.196D-13	3/2(7)	6.6318D+11	1.4055D+11
39.891	1/2(13)*	3.196D-13	1/2(4)	5.2531D+11	8.8189D+10
39.902	7/2(21)*	8.699D-13	7/2(4)	1.2037D+11	1.2604D+10
39.933	5/2(12)	3.361D-13	5/2(1)*	1.1930D+12	4.7830D+11
39.938	5/2(15)*	9.047D-13	5/2(4)	2.3695D+11	5.0795D+10
39.998	9/2(4)	2.715D-12	7/2(1)*	1.1299D+11	3.4668D+10
40.025	3/2(23)*	4.232D-13	5/2(8)	2.6376D+11	2.9439D+10
40.030	3/2(19)	3.419D-13	1/2(3)*	7.0408D+11	1.6951D+11
40.046	7/2(24)*	4.687D-13	7/2(5)	1.7641D+11	1.4586D+10
40.244	3/2(23)*	4.232D-13	3/2(7)	3.1482D+11	4.1942D+10
40.257	3/2(15)*	7.328D-13	5/2(4)	2.0211D+11	2.9935D+10
40.262	3/2(22)*	4.857D-13	5/2(8)	1.7829D+11	1.5437D+10

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
40.335	1/2(11)*	5.076D-13	3/2(6)	1.3829D+12	9.7079D+11
40.352	7/2(10)	2.380D-12	5/2(3)*	1.0823D+11	2.7883D+10
40.379	7/2(17)*	5.564D-13	5/2(6)	1.4046D+11	1.0976D+10
40.454	5/2(14)	6.737D-13	7/2(1)*	1.3335D+11	1.1981D+10
40.465	5/2(6)*	6.131D-13	3/2(1)	6.1403D+11	2.3116D+11
40.476	1/2(4)*	7.622D-13	3/2(1)	1.2598D+12	1.2096D+12
40.480	5/2(21)*	6.303D-13	7/2(2)	8.6076D+11	4.6699D+11
40.484	3/2(22)*	4.857D-13	3/2(7)	3.3415D+11	5.4228D+10
40.487	3/2(7)*	6.915D-13	3/2(1)	1.1283D+12	8.8026D+11
40.487	11/2(6)*	5.071D-13	9/2(2)	5.3691D+11	1.4619D+11
40.493	1/2(5)*	3.842D-13	1/2(2)	1.3148D+12	6.6414D+11
40.500	3/2(22)*	4.857D-13	1/2(4)	1.5529D+11	1.1711D+10
40.501	3/2(4)*	5.170D-13	1/2(1)	1.8791D+12	1.8255D+12
40.526	1/2(9)	5.334D-13	3/2(5)*	1.2888D+12	8.8587D+11
40.532	3/2(20)*	5.584D-13	5/2(6)	9.4722D+11	5.0102D+11
40.543	3/2(12)	6.215D-13	5/2(2)*	9.8976D+11	6.0883D+11
40.548	3/2(12)*	3.768D-13	3/2(5)	2.4956D+12	2.3469D+12
40.574	5/2(9)	4.560D-13	3/2(2)*	1.1681D+12	6.2218D+11
40.593	3/2(26)*	3.150D-13	3/2(8)	3.0536D+11	2.9367D+10
40.600	3/2(3)	5.444D-13	1/2(1)*	1.8293D+12	1.8217D+12
40.616	1/2(11)	3.338D-13	3/2(6)*	1.2026D+12	4.8274D+11
40.619	3/2(14)	1.005D-12	3/2(5)*	2.8138D+11	7.9592D+10
40.629	5/2(20)	3.411D-13	3/2(6)*	4.2457D+11	6.1488D+10
40.635	5/2(15)	6.612D-13	5/2(3)*	3.7949D+11	9.5223D+10
40.646	1/2(5)	4.611D-13	3/2(2)*	1.5669D+12	1.1320D+12
40.679	3/2(20)*	5.584D-13	3/2(6)	2.7061D+11	4.0892D+10
40.703	5/2(20)	3.411D-13	5/2(4)*	5.0874D+11	8.8283D+10
40.704	1/2(2)*	5.383D-13	1/2(1)	1.8026D+12	1.7493D+12
40.733	5/2(28)*	4.699D-13	7/2(5)	1.1961D+12	6.7235D+11
40.737	7/2(15)*	5.771D-13	7/2(1)	6.7464D+11	2.6266D+11
40.748	5/2(19)*	5.838D-13	5/2(5)	3.8850D+11	8.8115D+10
40.784	3/2(21)*	5.472D-13	5/2(7)	1.3652D+12	1.0197D+12
40.805	5/2(15)	6.612D-13	3/2(5)*	3.7317D+11	9.2081D+10
40.831	3/2(19)*	5.770D-13	5/2(5)	4.8767D+11	1.3722D+11
40.838	1/2(8)	1.492D-12	3/2(5)*	2.8741D+11	1.2324D+11
40.840	3/2(14)*	5.327D-13	5/2(4)	1.3718D+12	1.0025D+12

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
40.841	5/2(29)*	4.320D-13	3/2(9)	2.9409D+11	3.7365D+10
40.881	5/2(22)*	5.504D-13	7/2(3)	6.2531D+11	2.1520D+11
40.882	1/2(7)	3.500D-13	1/2(2)*	9.7631D+11	3.3365D+11
40.908	3/2(26)*	3.150D-13	1/2(5)	3.6829D+11	4.2718D+10
40.950	1/2(7)*	7.044D-13	3/2(5)	1.2611D+12	1.1203D+12
40.962	3/2(8)	4.285D-13	3/2(2)*	1.8574D+12	1.4784D+12
40.981	3/2(26)*	3.150D-13	5/2(9)	1.1723D+12	4.3284D+11
40.986	5/2(13)	7.107D-13	5/2(2)*	7.4593D+11	3.9543D+11
41.011	7/2(3)*	8.168D-13	5/2(1)	1.1371D+12	1.0562D+12
41.031	5/2(22)*	5.504D-13	5/2(7)	7.1123D+11	2.7840D+11
41.033	5/2(29)*	4.320D-13	5/2(10)	3.2498D+11	4.5628D+10
41.034	3/2(28)*	4.086D-13	3/2(9)	7.2399D+11	2.1416D+11
41.034	9/2(8)*	6.759D-13	7/2(2)	4.2800D+11	1.2381D+11
41.039	7/2(8)	7.964D-13	7/2(1)*	1.6564D+11	2.1850D+10
41.058	5/2(20)*	4.807D-13	5/2(6)	4.0050D+11	7.7101D+10
41.059	7/2(24)*	4.687D-13	5/2(10)	5.2636D+11	1.2984D+11
41.061	9/2(14)*	5.663D-13	7/2(5)	2.1714D+11	2.6700D+10
41.088	1/2(7)	3.500D-13	3/2(4)*	1.7928D+12	1.1250D+12
41.111	7/2(16)*	6.787D-13	7/2(2)	7.8683D+11	4.2019D+11
41.155	7/2(17)*	5.564D-13	9/2(1)	1.3905D+11	1.0757D+10
41.209	5/2(20)*	4.807D-13	3/2(6)	4.8661D+11	1.1382D+11
41.225	9/2(9)*	7.631D-13	7/2(3)	6.8136D+11	3.5427D+11
41.227	3/2(28)*	4.086D-13	5/2(10)	2.3665D+11	2.2882D+10
41.284	5/2(14)	6.737D-13	5/2(3)*	4.6691D+11	1.4688D+11
41.292	7/2(23)*	4.472D-13	7/2(5)	7.3617D+11	2.4234D+11
41.330	3/2(29)*	3.871D-13	5/2(11)	4.3562D+11	7.3447D+10
41.346	3/2(8)*	4.909D-13	3/2(2)	7.1851D+11	2.5346D+11
41.351	1/2(16)*	4.326D-13	3/2(9)	1.2526D+12	6.7876D+11
41.354	7/2(17)*	5.564D-13	7/2(3)	7.3863D+11	3.0353D+11
41.358	7/2(7)	8.154D-13	5/2(2)*	4.4540D+11	1.6176D+11
41.400	5/2(19)*	5.838D-13	7/2(1)	3.3137D+11	6.4104D+10
41.403	7/2(22)*	3.466D-13	5/2(9)	5.9374D+11	1.2220D+11
41.444	3/2(29)*	3.871D-13	3/2(10)	2.8077D+11	3.0512D+10
41.459	3/2(13)	7.481D-13	5/2(3)*	2.9098D+11	6.3340D+10
41.459	5/2(14)	6.737D-13	3/2(5)*	2.1890D+11	3.2283D+10
41.465	3/2(18)	3.445D-13	3/2(6)*	9.9482D+11	3.4094D+11

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
41.508	7/2(17)*	5.564D-13	5/2(7)	2.3121D+11	2.9742D+10
41.518	9/2(14)*	5.663D-13	9/2(2)	4.1599D+11	9.7995D+10
41.520	5/2(13)*	5.701D-13	5/2(4)	1.4103D+12	1.1338D+12
41.534	7/2(15)*	5.771D-13	5/2(6)	4.1759D+11	1.0063D+11
41.542	3/2(18)	3.445D-13	5/2(4)*	3.0965D+11	3.3030D+10
41.543	3/2(29)*	3.871D-13	1/2(6)	4.0517D+11	6.3539D+10
41.562	7/2(14)*	7.863D-13	5/2(5)	9.0754D+11	6.4760D+11
41.578	9/2(7)*	7.134D-13	7/2(1)	1.0870D+12	8.4291D+11
41.582	5/2(26)*	4.817D-13	3/2(8)	3.6555D+11	6.4363D+10
41.596	7/2(25)*	4.106D-13	7/2(6)	3.5993D+11	5.3190D+10
41.620	11/2(2)*	8.502D-13	9/2(1)	1.0019D+12	8.5349D+11
41.631	7/2(8)*	6.722D-13	5/2(4)	1.1471D+12	8.8454D+11
41.636	3/2(13)	7.481D-13	3/2(5)*	4.4006D+11	1.4487D+11
41.656	9/2(3)	9.485D-13	7/2(1)*	9.7991D+11	9.1077D+11
41.661	9/2(13)*	6.719D-13	7/2(5)	1.8603D+11	2.3250D+10
41.673	3/2(8)*	4.909D-13	1/2(2)	7.0951D+11	2.4715D+11
41.707	5/2(6)*	6.131D-13	5/2(1)	9.5309D+11	5.5694D+11
41.730	3/2(7)*	6.915D-13	5/2(1)	2.5111D+11	4.3606D+10
41.754	7/2(23)*	4.472D-13	9/2(2)	2.5364D+11	2.8767D+10
41.804	5/2(21)*	6.303D-13	5/2(7)	3.1818D+11	6.3812D+10
41.807	5/2(13)	7.107D-13	7/2(1)*	1.9753D+11	2.7730D+10
41.826	5/2(25)*	4.895D-13	3/2(8)	4.0037D+11	7.8458D+10
41.860	7/2(25)*	4.106D-13	5/2(11)	2.6808D+11	2.9507D+10
41.894	7/2(8)	7.964D-13	5/2(3)*	8.2143D+11	5.3734D+11
41.989	5/2(26)*	4.817D-13	5/2(9)	3.3181D+11	5.3029D+10
42.027	5/2(12)	3.361D-13	3/2(4)*	1.6517D+12	9.1681D+11
42.028	9/2(8)*	6.759D-13	9/2(1)	7.9313D+11	4.2519D+11
42.031	5/2(30)*	4.857D-13	3/2(10)	7.3911D+11	2.6535D+11
42.108	7/2(16)*	6.787D-13	9/2(1)	1.6027D+11	1.7435D+10
42.131	9/2(13)*	6.719D-13	9/2(2)	3.3402D+11	7.4958D+10
42.194	7/2(7)	8.154D-13	7/2(1)*	6.0771D+11	3.0114D+11
42.223	5/2(19)*	5.838D-13	5/2(6)	6.8830D+11	2.7658D+11
42.237	5/2(25)*	4.895D-13	5/2(9)	3.2180D+11	5.0687D+10
42.321	9/2(15)*	5.541D-13	7/2(6)	4.4168D+11	1.0809D+11
42.370	7/2(23)*	4.472D-13	5/2(10)	2.4674D+11	2.7223D+10
42.396	3/2(12)	6.215D-13	3/2(5)*	1.6940D+11	1.7835D+10

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
42.473	3/2(19)*	5.770D-13	3/2(6)	9.8064D+11	5.5488D+11
42.476	7/2(16)*	6.787D-13	5/2(7)	2.2094D+11	3.3132D+10
42.554	3/2(18)	3.445D-13	1/2(3)*	2.7352D+11	2.5773D+10
42.555	1/2(13)*	3.196D-13	1/2(5)	1.0153D+12	3.2944D+11
42.587	3/2(11)	3.528D-13	1/2(2)*	1.2846D+12	5.8217D+11
42.627	3/2(23)*	4.232D-13	3/2(8)	6.7223D+11	1.9123D+11
42.882	5/2(13)	7.107D-13	3/2(5)*	1.2084D+11	1.0378D+10
42.896	3/2(22)*	4.857D-13	3/2(8)	4.3872D+11	9.3479D+10
42.917	5/2(29)*	4.320D-13	5/2(11)	2.4756D+11	2.6478D+10
43.097	7/2(14)*	7.863D-13	5/2(6)	2.1125D+11	3.5089D+10
43.160	7/2(2)*	3.506D-12	5/2(1)	1.4411D+11	7.2814D+10
43.248	3/2(22)*	4.857D-13	1/2(5)	1.9847D+11	1.9130D+10
43.486	9/2(7)*	7.134D-13	7/2(3)	1.2071D+11	1.0395D+10
43.562	5/2(11)*	1.609D-12	3/2(5)	5.0374D+11	4.0835D+11
43.856	3/2(3)*	1.268D-11	1/2(1)	4.0709D+10	2.1016D+10
44.197	9/2(9)*	7.631D-13	7/2(4)	1.5843D+11	1.9153D+10
45.114	11/2(3)*	1.372D-12	9/2(2)	1.5831D+11	3.4386D+10
45.708	3/2(16)	7.289D-13	1/2(3)*	1.3874D+11	1.4029D+10
45.846	9/2(10)*	1.255D-12	9/2(2)	1.0592D+11	1.4076D+10
46.548	5/2(5)*	3.475D-12	3/2(2)	1.7853D+11	1.1074D+11
46.592	5/2(6)	2.665D-12	3/2(2)*	6.9021D+10	1.2698D+10
46.806	9/2(7)*	7.134D-13	7/2(4)	1.3605D+11	1.3204D+10
47.128	5/2(18)*	1.087D-12	7/2(2)	1.0404D+11	1.1763D+10
47.467	3/2(11)*	3.996D-13	5/2(3)	2.7767D+11	3.0813D+10
47.615	7/2(14)	3.087D-13	7/2(3)*	3.9149D+11	4.7316D+10
47.795	5/2(11)	6.155D-13	5/2(2)*	2.7426D+11	4.6296D+10
47.886	7/2(13)	6.905D-13	7/2(2)*	1.9434D+11	2.6077D+10
48.149	3/2(6)*	6.252D-13	3/2(1)	5.5779D+11	1.9451D+11
48.149	3/2(9)*	1.345D-12	3/2(3)	1.1276D+11	1.7104D+10
48.180	9/2(8)	5.403D-13	9/2(1)*	4.4931D+11	1.0907D+11
48.332	1/2(11)	3.338D-13	3/2(7)*	2.9744D+11	2.9533D+10
48.347	1/2(11)	3.338D-13	1/2(4)*	3.0845D+11	3.1760D+10
48.381	5/2(20)	3.411D-13	5/2(6)*	6.0721D+11	1.2577D+11
48.467	7/2(25)*	4.106D-13	7/2(7)	2.4513D+11	2.4670D+10
48.562	5/2(9)*	5.596D-13	5/2(2)	7.2526D+11	2.9437D+11
48.718	5/2(18)*	1.087D-12	7/2(3)	1.6789D+11	3.0629D+10

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
48.740	3/2(18)*	1.008D-12	5/2(7)	1.5550D+11	2.4364D+10
48.746	5/2(19)	8.083D-13	7/2(2)*	6.3828D+11	3.2931D+11
48.893	3/2(29)*	3.871D-13	3/2(12)	2.0339D+11	1.6011D+10
48.981	3/2(19)	3.419D-13	3/2(8)*	1.7617D+11	1.0613D+10
49.280	7/2(6)	9.198D-13	7/2(1)*	2.0752D+11	3.9611D+10
49.307	3/2(10)*	6.925D-13	5/2(2)	8.0622D+11	4.5012D+11
49.450	5/2(18)	8.658D-13	5/2(5)*	1.3956D+11	1.6862D+10
49.453	9/2(15)*	5.541D-13	7/2(7)	1.3958D+11	1.0795D+10
49.461	3/2(4)	6.184D-13	3/2(1)*	1.6151D+12	1.6133D+12
49.464	5/2(8)*	3.461D-13	3/2(3)	1.8593D+12	1.1963D+12
49.539	3/2(18)	3.445D-13	3/2(7)*	4.5490D+11	7.1287D+10
49.638	5/2(26)*	4.817D-13	3/2(11)	2.7622D+11	3.6748D+10
49.660	3/2(15)*	7.328D-13	5/2(5)	5.2089D+11	1.9883D+11
49.699	5/2(21)	6.215D-13	7/2(4)*	3.0157D+11	5.6525D+10
49.806	5/2(4)*	1.005D-12	5/2(1)	3.6308D+11	1.3245D+11
49.883	7/2(22)*	3.466D-13	5/2(12)	9.1838D+11	2.9236D+11
49.889	5/2(29)*	4.320D-13	7/2(7)	1.7546D+11	1.3301D+10
49.961	3/2(16)	7.289D-13	5/2(5)*	9.9385D+11	7.1996D+11
49.967	3/2(10)	9.890D-13	5/2(3)*	4.1639D+11	1.7147D+11
49.986	5/2(25)*	4.895D-13	3/2(11)	2.8879D+11	4.0821D+10
50.017	7/2(11)	7.516D-13	5/2(5)*	1.8774D+11	2.6490D+10
50.017	1/2(5)*	3.842D-13	3/2(3)	1.1868D+12	5.4107D+11
50.031	7/2(21)*	8.699D-13	5/2(12)	2.1155D+11	3.8929D+10
50.077	5/2(16)*	9.200D-13	7/2(2)	1.9309D+11	3.4300D+10
50.080	1/2(6)	1.011D-12	3/2(5)*	3.0335D+11	9.3050D+10
50.080	7/2(4)	1.084D-12	5/2(1)*	7.9410D+11	6.8378D+11
50.088	1/2(4)	1.236D-12	3/2(3)*	7.2893D+11	6.5652D+11
50.113	3/2(7)	1.127D-12	3/2(3)*	5.2298D+11	3.0837D+11
50.135	3/2(20)	4.157D-13	1/2(6)*	2.7350D+11	3.1092D+10
50.162	5/2(30)*	4.857D-13	7/2(8)	2.4951D+11	3.0240D+10
50.170	7/2(11)*	1.099D-12	7/2(2)	1.2939D+11	1.8396D+10
50.180	1/2(2)	8.956D-13	1/2(1)*	1.0839D+12	1.0522D+12
50.195	1/2(3)	1.292D-12	3/2(1)*	7.6695D+11	7.5999D+11
50.213	9/2(15)*	5.541D-13	9/2(3)	3.3561D+11	6.2408D+10
50.240	5/2(14)*	8.108D-13	5/2(5)	4.7030D+11	1.7933D+11
50.393	5/2(11)	6.155D-13	3/2(5)*	1.4723D+11	1.3342D+10

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
50.428	9/2(5)*	1.126D-12	7/2(2)	2.2253D+11	5.5756D+10
50.457	5/2(8)	1.545D-12	3/2(3)*	2.9124D+11	1.3104D+11
50.492	7/2(15)	5.159D-13	5/2(7)*	4.2664D+11	9.3898D+10
50.518	7/2(6)	9.198D-13	5/2(3)*	1.4844D+11	2.0266D+10
50.541	1/2(13)*	3.196D-13	3/2(11)	7.0844D+11	1.6040D+11
50.550	1/2(9)*	1.071D-12	3/2(6)	4.9035D+11	2.5758D+11
50.586	1/2(5)	4.611D-13	1/2(2)*	3.8480D+11	6.8270D+10
50.596	3/2(11)*	3.996D-13	1/2(3)	4.6030D+11	8.4676D+10
50.612	1/2(12)	5.070D-13	3/2(9)*	8.2977D+11	3.4909D+11
50.628	3/2(26)*	3.150D-13	1/2(7)	8.1522D+11	2.0931D+11
50.662	3/2(2)	1.732D-12	1/2(1)*	5.5242D+11	5.2858D+11
50.663	3/2(9)	1.022D-12	5/2(2)*	1.9809D+11	4.0116D+10
50.677	3/2(2)*	2.033D-12	1/2(1)	3.6325D+11	2.6831D+11
50.691	7/2(5)*	6.729D-13	5/2(2)	6.2323D+11	2.6137D+11
50.693	5/2(17)	7.890D-13	5/2(5)*	8.1387D+11	5.2262D+11
50.714	11/2(6)*	5.071D-13	9/2(3)	5.8112D+11	1.7125D+11
50.718	3/2(19)	3.419D-13	1/2(5)*	8.1293D+11	2.2598D+11
50.736	3/2(28)*	4.086D-13	5/2(13)	2.7244D+11	3.0326D+10
50.747	11/2(7)*	7.306D-13	9/2(4)	3.2390D+11	7.6648D+10
50.785	9/2(6)	9.608D-13	7/2(2)*	6.1184D+11	3.5966D+11
50.791	5/2(9)	4.560D-13	3/2(4)*	6.3270D+11	1.8253D+11
50.909	5/2(17)*	1.217D-12	7/2(3)	1.9033D+11	4.4084D+10
50.929	3/2(16)*	9.814D-13	3/2(6)	2.3606D+11	5.4684D+10
50.930	5/2(22)	3.759D-13	5/2(9)*	1.0004D+12	3.7619D+11
50.966	1/2(3)*	9.298D-13	3/2(2)	7.8037D+11	5.6622D+11
50.971	3/2(20)	4.157D-13	3/2(10)*	4.8554D+11	9.7992D+10
50.987	7/2(25)*	4.106D-13	5/2(14)	2.5805D+11	2.7340D+10
51.077	3/2(8)	4.285D-13	1/2(2)*	2.3241D+11	2.3147D+10
51.099	5/2(25)*	4.895D-13	5/2(12)	1.7537D+11	1.5053D+10
51.112	5/2(18)	8.658D-13	7/2(2)*	3.0031D+11	7.8083D+10
51.135	3/2(23)*	4.232D-13	3/2(11)	2.1008D+11	1.8677D+10
51.140	9/2(15)*	5.541D-13	7/2(8)	2.4813D+11	3.4114D+10
51.234	5/2(14)*	8.108D-13	7/2(1)	1.2277D+11	1.2219D+10
51.299	3/2(19)	3.419D-13	5/2(8)*	7.7911D+11	2.0757D+11
51.340	5/2(15)*	9.047D-13	5/2(6)	1.1607D+11	1.2189D+10
51.356	9/2(3)*	1.429D-12	7/2(2)	9.6913D+10	1.3420D+10

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
51.364	3/2(11)*	3.996D-13	3/2(4)	1.7364D+12	1.2050D+12
51.370	3/2(17)*	1.258D-12	5/2(7)	2.2686D+11	6.4759D+10
51.437	11/2(7)*	7.306D-13	11/2(1)	2.6228D+11	5.0257D+10
51.463	1/2(3)*	9.298D-13	1/2(2)	2.1113D+11	4.1446D+10
51.464	5/2(20)	3.411D-13	3/2(8)*	8.3366D+11	2.3706D+11
51.492	3/2(29)*	3.871D-13	3/2(14)	1.7623D+11	1.2021D+10
51.516	9/2(14)*	5.663D-13	7/2(7)	1.9981D+11	2.2609D+10
51.522	3/2(22)*	4.857D-13	3/2(11)	1.9820D+11	1.9079D+10
51.576	5/2(30)*	4.857D-13	7/2(9)	1.7654D+11	1.5138D+10
51.604	7/2(9)*	9.723D-13	7/2(1)	3.0448D+11	9.0136D+10
51.617	5/2(10)	1.144D-12	7/2(1)*	1.1814D+11	1.5974D+10
51.648	7/2(24)*	4.687D-13	7/2(8)	2.1144D+11	2.0952D+10
51.663	7/2(11)*	1.099D-12	9/2(1)	1.2924D+11	1.8353D+10
51.675	11/2(1)*	1.533D-12	9/2(1)	3.3052D+11	1.6744D+11
51.694	7/2(10)*	1.480D-12	7/2(2)	2.6793D+11	1.0628D+11
51.718	7/2(11)	7.516D-13	7/2(2)*	6.8449D+11	3.5215D+11
51.752	5/2(21)	6.215D-13	7/2(5)*	4.3215D+11	1.1608D+11
51.776	3/2(7)	1.127D-12	5/2(1)*	1.4472D+11	2.3614D+10
51.793	3/2(20)	4.157D-13	5/2(9)*	5.3552D+11	1.1920D+11
51.829	3/2(8)*	4.909D-13	3/2(3)	5.6105D+11	1.5454D+11
51.933	1/2(16)*	4.326D-13	3/2(12)	4.2630D+11	7.8618D+10
51.953	7/2(14)	3.087D-13	5/2(8)*	1.7044D+12	8.9684D+11
51.977	7/2(11)*	1.099D-12	7/2(3)	2.1374D+11	5.0196D+10
51.981	7/2(15)	5.159D-13	7/2(4)*	5.5599D+11	1.5947D+11
51.985	7/2(5)	1.162D-12	5/2(2)*	6.6970D+11	5.2128D+11
52.013	7/2(25)*	4.106D-13	5/2(15)	4.5620D+11	8.5448D+10
52.118	5/2(16)*	9.200D-13	5/2(7)	2.8955D+11	7.7132D+10
52.143	5/2(8)	1.545D-12	5/2(1)*	1.9102D+11	5.6372D+10
52.298	5/2(28)*	4.699D-13	3/2(12)	5.3895D+11	1.3650D+11
52.463	9/2(13)*	6.719D-13	7/2(7)	1.6577D+11	1.8461D+10
52.477	7/2(23)*	4.472D-13	5/2(13)	4.7118D+11	9.9275D+10
52.497	5/2(4)*	1.005D-12	3/2(2)	5.7992D+11	3.3789D+11
52.562	9/2(2)	1.982D-12	7/2(1)*	4.4878D+11	3.9916D+11
52.572	7/2(19)*	9.827D-13	5/2(12)	1.5420D+11	2.3366D+10
52.599	3/2(28)*	4.086D-13	3/2(13)	1.7025D+11	1.1842D+10
52.606	7/2(24)*	4.687D-13	5/2(14)	1.8366D+11	1.5808D+10

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
52.620	3/2(6)*	6.252D-13	3/2(2)	1.7310D+11	1.8733D+10
52.813	3/2(18)	3.445D-13	3/2(8)*	4.7721D+11	7.8453D+10
52.828	7/2(4)*	1.478D-12	5/2(2)	2.9317D+11	1.2705D+11
52.906	7/2(10)	2.380D-12	5/2(5)*	7.4408D+10	1.3178D+10
52.922	9/2(3)*	1.429D-12	9/2(1)	1.9995D+11	5.7127D+10
52.977	5/2(10)	1.144D-12	5/2(3)*	4.3512D+11	2.1668D+11
53.150	3/2(6)*	6.252D-13	1/2(2)	7.1838D+11	3.2264D+11
53.186	3/2(9)*	1.345D-12	5/2(2)	1.5325D+11	3.1596D+10
53.251	9/2(3)*	1.429D-12	7/2(3)	1.0012D+11	1.4323D+10
53.279	5/2(21)	6.215D-13	3/2(10)*	7.6799D+11	3.6659D+11
53.362	1/2(11)	3.338D-13	1/2(5)*	7.8268D+11	2.0449D+11
53.504	5/2(28)*	4.699D-13	3/2(13)	1.5157D+11	1.0796D+10
53.592	3/2(9)	1.022D-12	3/2(5)*	4.5831D+11	2.1473D+11
53.606	7/2(12)	9.272D-13	5/2(6)*	1.0476D+11	1.0175D+10
53.654	5/2(29)*	4.320D-13	5/2(15)	2.8053D+11	3.3999D+10
53.707	5/2(3)	1.974D-12	3/2(1)*	5.0653D+11	5.0652D+11
53.740	7/2(23)*	4.472D-13	7/2(8)	1.5398D+11	1.0602D+10
53.745	1/2(12)	5.070D-13	1/2(6)*	2.7184D+11	3.7468D+10
53.872	7/2(10)*	1.480D-12	5/2(7)	1.3292D+11	2.6157D+10
53.948	7/2(9)	9.295D-13	5/2(5)*	2.1605D+11	4.3389D+10
54.173	7/2(8)*	6.722D-13	5/2(6)	1.3288D+11	1.1869D+10
54.231	7/2(15)	5.159D-13	7/2(5)*	1.5651D+11	1.2636D+10
54.365	9/2(8)	5.403D-13	7/2(5)*	1.3835D+12	1.0341D+12
54.366	5/2(6)	2.665D-12	3/2(3)*	7.9655D+10	1.6912D+10
54.366	9/2(13)*	6.719D-13	7/2(8)	2.5433D+11	4.3457D+10
54.461	5/2(7)*	1.725D-12	5/2(2)	3.3151D+11	1.8955D+11
54.535	7/2(3)	3.525D-12	5/2(1)*	7.7594D+10	2.1221D+10
54.707	1/2(12)	5.070D-13	3/2(10)*	6.0719D+11	1.8693D+11
54.801	7/2(12)	9.272D-13	7/2(3)*	2.1387D+11	4.2406D+10
54.952	9/2(14)*	5.663D-13	7/2(9)	3.5248D+11	7.0356D+10
55.045	1/2(16)*	4.326D-13	1/2(9)	2.3069D+11	2.3023D+10
55.055	3/2(16)*	9.814D-13	3/2(7)	1.1487D+11	1.2949D+10
55.056	11/2(6)*	5.071D-13	9/2(5)	7.5820D+11	2.9152D+11
55.243	9/2(7)	8.491D-13	9/2(1)*	1.8070D+11	2.7725D+10
55.313	5/2(9)*	5.596D-13	5/2(3)	1.6908D+11	1.5998D+10
55.393	5/2(15)*	9.047D-13	5/2(8)	1.5214D+11	2.0940D+10

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
55.614	11/2(7)*	7.306D-13	9/2(6)	4.5579D+11	1.5178D+11
55.673	7/2(25)*	4.106D-13	7/2(11)	2.1358D+11	1.8729D+10
55.691	5/2(20)	3.411D-13	3/2(9)*	1.8052D+11	1.1115D+10
55.818	7/2(13)	6.905D-13	5/2(8)*	3.3725D+11	7.8534D+10
56.170	7/2(13)	6.905D-13	5/2(7)*	1.4136D+11	1.3798D+10
56.217	7/2(12)*	7.184D-13	7/2(4)	1.2457D+11	1.1148D+10
56.282	3/2(10)*	6.925D-13	5/2(3)	1.3695D+11	1.2988D+10
56.300	9/2(2)*	3.946D-12	7/2(1)	1.1180D+11	4.9330D+10
56.329	5/2(6)	2.665D-12	5/2(1)*	7.5300D+10	1.5114D+10
56.470	3/2(15)*	7.328D-13	1/2(4)	2.7385D+11	5.4957D+10
56.737	7/2(24)*	4.687D-13	5/2(17)	1.8160D+11	1.5455D+10
56.900	7/2(15)	5.159D-13	5/2(9)*	6.2525D+11	2.0167D+11
57.024	5/2(5)	3.046D-12	3/2(3)*	2.6333D+11	2.1121D+11
57.134	5/2(20)*	4.807D-13	3/2(11)	5.0616D+11	1.2315D+11
57.188	11/2(7)*	7.306D-13	9/2(7)	1.2795D+11	1.1960D+10
57.189	5/2(14)*	8.108D-13	3/2(7)	4.8695D+11	1.9225D+11
57.201	7/2(9)*	9.723D-13	5/2(8)	4.7917D+11	2.2324D+11
57.241	3/2(5)*	1.671D-12	3/2(1)	1.1305D+11	2.1359D+10
57.340	1/2(9)	5.334D-13	1/2(4)*	2.8423D+11	4.3087D+10
57.355	3/2(27)*	1.192D-12	5/2(16)	1.7973D+11	3.8504D+10
57.433	5/2(10)*	2.025D-12	3/2(5)	3.2812D+11	2.1798D+11
57.505	3/2(14)	1.005D-12	3/2(7)*	2.2475D+11	5.0777D+10
57.527	3/2(14)	1.005D-12	1/2(4)*	1.3063D+11	1.7154D+10
57.626	9/2(4)*	1.227D-12	7/2(4)	4.9876D+11	3.0523D+11
57.658	1/2(12)*	1.052D-12	3/2(12)	1.3884D+11	2.0275D+10
57.754	7/2(18)*	1.050D-12	7/2(7)	2.6371D+11	7.2998D+10
57.762	9/2(5)	8.806D-13	7/2(3)*	7.7446D+11	5.2818D+11
57.865	7/2(1)	5.739D-12	5/2(1)*	1.3610D+11	1.0629D+11
57.879	5/2(15)	6.612D-13	3/2(7)*	2.4978D+11	4.1253D+10
57.922	5/2(15)	6.612D-13	5/2(6)*	1.9998D+11	2.6444D+10
57.946	1/2(8)	1.492D-12	3/2(7)*	1.5449D+11	3.5611D+10
57.967	1/2(8)	1.492D-12	1/2(4)*	1.5407D+11	3.5415D+10
58.054	3/2(23)*	4.232D-13	3/2(12)	2.0026D+11	1.6970D+10
58.092	7/2(5)*	6.729D-13	5/2(3)	8.5695D+11	4.9416D+11
58.204	9/2(12)*	9.157D-13	7/2(9)	1.1015D+11	1.1110D+10
58.215	5/2(23)*	1.046D-12	5/2(13)	3.1095D+11	1.0110D+11

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
58.316	9/2(3)*	1.429D-12	7/2(4)	1.5725D+11	3.5333D+10
58.383	1/2(10)	1.012D-12	3/2(9)*	2.6686D+11	7.2035D+10
58.554	3/2(22)*	4.857D-13	3/2(12)	1.8944D+11	1.7430D+10
58.555	11/2(5)*	1.271D-12	11/2(1)	1.3324D+11	2.2565D+10
58.576	7/2(9)	9.295D-13	5/2(6)*	3.4539D+11	1.1089D+11
58.593	5/2(20)*	4.807D-13	5/2(12)	1.8545D+11	1.6531D+10
58.656	1/2(11)*	5.076D-13	1/2(7)	4.2621D+11	9.2211D+10
58.688	3/2(17)	9.292D-13	3/2(9)*	1.5374D+11	2.1963D+10
58.742	5/2(17)	7.890D-13	3/2(8)*	1.2055D+11	1.1466D+10
58.823	7/2(21)*	8.699D-13	7/2(10)	1.0786D+11	1.0119D+10
58.882	1/2(14)*	9.231D-13	1/2(8)	1.1810D+11	1.2874D+10
58.894	5/2(27)*	1.048D-12	5/2(16)	1.2762D+11	1.7066D+10
58.917	3/2(24)*	1.133D-12	5/2(14)	1.0544D+11	1.2591D+10
59.055	3/2(18)*	1.008D-12	3/2(9)	1.1023D+11	1.2242D+10
59.127	1/2(12)*	1.052D-12	3/2(13)	3.2240D+11	1.0933D+11
59.204	5/2(14)	6.737D-13	3/2(7)*	2.4463D+11	4.0318D+10
59.386	3/2(20)*	5.584D-13	1/2(7)	1.3581D+11	1.0299D+10
59.414	9/2(10)*	1.255D-12	9/2(3)	1.6148D+11	3.2717D+10
59.419	1/2(15)*	9.319D-13	3/2(15)	3.3265D+11	1.0312D+11
59.454	7/2(12)*	7.184D-13	5/2(9)	6.0764D+11	2.6525D+11
59.568	7/2(15)*	5.771D-13	5/2(12)	1.4363D+11	1.1906D+10
59.588	3/2(13)	7.481D-13	1/2(4)*	1.4241D+11	1.5171D+10
59.692	9/2(4)	2.715D-12	7/2(3)*	6.4400D+10	1.1261D+10
59.741	5/2(18)*	1.087D-12	5/2(10)	9.7969D+10	1.0430D+10
59.767	1/2(9)*	1.071D-12	1/2(5)	2.2725D+11	5.5321D+10
59.818	3/2(6)	2.515D-12	1/2(2)*	2.0109D+11	1.0169D+11
60.072	5/2(22)	3.759D-13	3/2(11)*	1.1751D+12	5.1905D+11
60.089	11/2(4)*	2.017D-12	9/2(4)	9.4562D+10	1.8038D+10
60.096	7/2(11)*	1.099D-12	5/2(9)	1.4655D+11	2.3598D+10
60.125	5/2(3)*	2.809D-12	5/2(1)	1.2799D+11	4.6025D+10
60.153	3/2(29)*	3.871D-13	3/2(18)	3.3661D+11	4.3856D+10
60.209	5/2(16)	1.763D-12	3/2(8)*	1.8031D+11	5.7322D+10
60.260	3/2(6)	2.515D-12	3/2(4)*	8.3863D+10	1.7687D+10
60.273	5/2(5)*	3.475D-12	3/2(3)	8.2645D+10	2.3732D+10
60.297	3/2(16)*	9.814D-13	1/2(5)	2.0450D+11	4.1043D+10
60.440	5/2(11)	6.155D-13	3/2(6)*	8.9518D+11	4.9321D+11

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
60.465	9/2(7)	8.491D-13	7/2(4)*	4.1968D+11	1.4955D+11
60.504	5/2(15)*	9.047D-13	3/2(8)	3.0625D+11	8.4847D+10
60.586	5/2(6)	2.665D-12	3/2(4)*	1.0783D+11	3.0994D+10
60.629	7/2(12)	9.272D-13	5/2(8)*	1.5536D+11	2.2378D+10
60.661	5/2(18)	8.658D-13	5/2(7)*	3.5121D+11	1.0679D+11
60.678	5/2(9)*	5.596D-13	3/2(4)	8.5422D+11	4.0836D+11
60.702	3/2(24)*	1.133D-12	3/2(14)	1.5014D+11	2.5529D+10
60.735	3/2(10)*	6.925D-13	1/2(3)	4.1800D+11	1.2099D+11
60.814	1/2(12)*	1.052D-12	1/2(8)	3.3131D+11	1.1546D+11
60.916	7/2(4)*	1.478D-12	5/2(3)	2.1975D+11	7.1386D+10
60.979	7/2(19)*	9.827D-13	7/2(9)	1.2790D+11	1.6076D+10
61.007	5/2(2)*	2.343D-12	3/2(1)	4.0960D+11	3.9315D+11
61.080	7/2(20)*	1.307D-12	7/2(10)	1.2878D+11	2.1684D+10
61.134	3/2(12)	6.215D-13	3/2(7)*	1.4131D+11	1.2410D+10
61.158	3/2(12)	6.215D-13	1/2(4)*	2.0879D+11	2.7093D+10
61.166	7/2(6)	9.198D-13	5/2(4)*	6.5077D+11	3.8953D+11
61.225	5/2(24)*	1.049D-12	3/2(14)	1.8629D+11	3.6419D+10
61.276	3/2(20)	4.157D-13	3/2(11)*	8.1488D+11	2.7601D+11
61.368	7/2(18)*	1.050D-12	5/2(14)	2.0818D+11	4.5493D+10
61.431	9/2(11)*	1.342D-12	9/2(4)	3.5287D+11	1.6709D+11
61.932	11/2(1)	2.851D-12	9/2(1)*	3.5071D+11	3.5071D+11
61.964	3/2(14)	1.005D-12	3/2(8)*	1.4975D+11	2.2545D+10
61.966	1/2(6)*	1.288D-12	1/2(3)	5.5147D+11	3.9161D+11
61.977	7/2(1)*	3.180D-12	5/2(1)	2.9461D+11	2.7599D+11
62.088	5/2(2)	3.328D-12	3/2(1)*	3.0044D+11	3.0044D+11
62.176	1/2(8)*	1.756D-12	3/2(7)	1.1688D+11	2.3994D+10
62.214	1/2(8)*	1.756D-12	1/2(4)	3.6596D+11	2.3523D+11
62.295	1/2(6)	1.011D-12	1/2(3)*	5.1208D+11	2.6516D+11
62.325	5/2(18)	8.658D-13	3/2(9)*	1.6253D+11	2.2871D+10
62.331	9/2(6)	9.608D-13	7/2(4)*	2.8405D+11	7.7516D+10
62.496	9/2(11)*	1.342D-12	7/2(10)	1.5822D+11	3.3594D+10
62.518	3/2(10)	9.890D-13	1/2(3)*	3.1940D+11	1.0089D+11
62.589	1/2(10)*	1.215D-12	3/2(10)	5.7738D+11	4.0500D+11
62.593	1/2(10)	1.012D-12	1/2(6)*	1.3986D+11	1.9785D+10
62.632	9/2(5)*	1.126D-12	7/2(5)	3.3268D+11	1.2461D+11
62.649	7/2(20)*	1.307D-12	5/2(16)	1.3422D+11	2.3552D+10

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
62.738	3/2(25)*	1.080D-12	3/2(15)	3.2530D+11	1.1426D+11
62.782	7/2(13)*	6.767D-13	5/2(11)	9.9350D+11	6.6796D+11
62.797	3/2(13)*	1.803D-12	3/2(7)	2.1402D+11	8.2589D+10
62.800	9/2(10)*	1.255D-12	7/2(9)	2.8650D+11	1.0299D+11
62.815	1/2(10)*	1.215D-12	1/2(6)	1.7355D+11	3.6590D+10
62.836	3/2(13)*	1.803D-12	1/2(4)	8.3470D+10	1.2562D+10
62.860	7/2(18)*	1.050D-12	5/2(15)	1.8068D+11	3.4268D+10
62.886	5/2(4)	2.507D-12	3/2(2)*	2.6761D+11	1.7953D+11
62.944	3/2(17)	9.292D-13	1/2(6)*	4.1194D+11	1.5768D+11
62.961	3/2(17)*	1.258D-12	3/2(9)	3.5646D+11	1.5989D+11
62.963	9/2(4)	2.715D-12	9/2(1)*	1.2647D+11	4.3434D+10
63.068	5/2(17)*	1.217D-12	5/2(10)	3.9962D+11	1.9433D+11
63.098	5/2(7)*	1.725D-12	5/2(3)	2.2713D+11	8.8977D+10
63.225	9/2(6)*	1.034D-12	7/2(6)	7.3631D+11	5.6081D+11
63.294	5/2(12)*	2.206D-12	5/2(8)	1.3375D+11	3.9460D+10
63.309	11/2(1)*	1.533D-12	9/2(2)	2.6243D+11	1.0555D+11
63.531	9/2(7)	8.491D-13	7/2(5)*	3.3114D+11	9.3104D+10
63.597	9/2(12)*	9.157D-13	7/2(11)	2.2552D+11	4.6571D+10
63.708	3/2(15)	1.351D-12	3/2(9)*	2.3318D+11	7.3468D+10
63.767	3/2(18)*	1.008D-12	3/2(10)	1.2408D+11	1.5514D+10
63.789	1/2(14)*	9.231D-13	3/2(16)	2.7039D+11	6.7487D+10
63.843	5/2(12)*	2.206D-12	3/2(7)	8.5984D+10	1.6309D+10
63.902	1/2(10)	1.012D-12	3/2(10)*	3.0986D+11	9.7119D+10
63.980	11/2(3)*	1.372D-12	9/2(5)	3.7189D+11	1.8975D+11
64.001	3/2(18)*	1.008D-12	1/2(6)	4.1296D+11	1.7183D+11
64.035	7/2(7)*	3.004D-12	5/2(8)	9.8714D+10	2.9277D+10
64.088	5/2(16)*	9.200D-13	3/2(9)	2.5175D+11	5.8307D+10
64.091	5/2(3)*	2.809D-12	3/2(2)	1.8989D+11	1.0130D+11
64.094	5/2(18)*	1.087D-12	3/2(10)	3.4881D+11	1.3221D+11
64.112	9/2(12)*	9.157D-13	7/2(12)	3.2227D+11	9.5104D+10
64.139	3/2(25)*	1.080D-12	5/2(18)	1.2760D+11	1.7582D+10
64.205	3/2(27)*	1.192D-12	5/2(19)	2.8356D+11	9.5843D+10
64.209	5/2(16)	1.763D-12	5/2(7)*	1.2770D+11	2.8750D+10
64.215	7/2(13)	6.905D-13	5/2(9)*	5.4907D+11	2.0816D+11
64.254	9/2(8)*	6.759D-13	7/2(7)	1.5668D+11	1.6594D+10
64.267	3/2(17)	9.292D-13	3/2(10)*	1.6825D+11	2.6305D+10

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
64.450	3/2(5)*	1.671D-12	1/2(2)	1.8389D+11	5.6509D+10
64.453	5/2(19)	8.083D-13	3/2(10)*	2.6853D+11	5.8287D+10
64.533	1/2(9)	5.334D-13	1/2(5)*	1.6270D+11	1.4118D+10
64.558	11/2(2)*	8.502D-13	9/2(3)	1.4622D+11	1.8178D+10
64.569	1/2(15)*	9.319D-13	3/2(17)	1.4472D+11	1.9518D+10
64.598	7/2(10)*	1.480D-12	7/2(5)	1.1649D+11	2.0090D+10
64.616	9/2(9)*	7.631D-13	7/2(8)	1.1929D+11	1.0859D+10
64.644	9/2(1)	5.367D-12	7/2(1)*	1.5994D+11	1.3729D+11
64.716	7/2(11)*	1.099D-12	5/2(10)	1.2171D+11	1.6277D+10
64.733	5/2(24)*	1.049D-12	5/2(17)	1.0010D+11	1.0515D+10
64.762	3/2(27)*	1.192D-12	1/2(10)	1.7908D+11	3.8226D+10
64.803	7/2(6)*	2.932D-12	5/2(4)	1.8208D+11	9.7187D+10
64.808	5/2(10)	1.144D-12	5/2(4)*	1.4065D+11	2.2639D+10
64.891	5/2(21)*	6.303D-13	3/2(12)	1.3780D+11	1.1968D+10
64.942	1/2(15)*	9.319D-13	1/2(10)	3.1224D+11	9.0853D+10
65.052	7/2(2)	4.931D-12	5/2(2)*	1.8193D+11	1.6319D+11
65.101	3/2(9)	1.022D-12	3/2(6)*	1.2232D+11	1.5296D+10
65.365	7/2(16)*	6.787D-13	5/2(13)	1.2240D+11	1.0168D+10
65.437	7/2(2)*	3.506D-12	5/2(2)	1.4107D+11	6.9774D+10
65.818	9/2(14)*	5.663D-13	7/2(13)	2.6565D+11	3.9965D+10
65.945	7/2(10)	2.380D-12	5/2(7)*	7.1438D+10	1.2147D+10
66.076	5/2(16)	1.763D-12	3/2(9)*	8.0449D+10	1.1411D+10
66.125	11/2(5)*	1.271D-12	9/2(7)	4.5056D+11	2.5804D+11
66.274	7/2(3)	3.525D-12	5/2(3)*	1.3182D+11	6.1241D+10
66.331	5/2(7)	2.445D-12	3/2(5)*	1.8770D+11	8.6140D+10
66.338	5/2(27)*	1.048D-12	3/2(17)	3.4250D+11	1.2293D+11
67.035	11/2(4)*	2.017D-12	9/2(6)	2.3970D+11	1.1590D+11
67.372	9/2(13)*	6.719D-13	7/2(13)	3.3999D+11	7.7660D+10
67.891	7/2(21)*	8.699D-13	5/2(19)	1.4412D+11	1.8068D+10
74.715	5/2(1)*	2.207D-11	5/2(1)	2.7861D+10	1.7135D+10
75.371	9/2(2)*	3.946D-12	9/2(2)	5.3064D+10	1.1112D+10
75.899	3/2(5)	5.795D-12	3/2(2)*	4.7609D+10	1.3135D+10
103.367	3/2(2)*	2.033D-12	5/2(1)	7.6013D+10	1.1749D+10
105.647	3/2(5)	5.795D-12	5/2(1)*	7.0754D+10	2.9009D+10
105.919	5/2(4)	2.507D-12	7/2(1)*	6.4557D+10	1.0448D+10
106.347	7/2(6)*	2.932D-12	9/2(1)	6.3597D+10	1.1857D+10

Continued...

Table 10 (contd)

λ	Upper	τ	Lower	A	A_{br}
115.595	1/2(1)	2.616D-11	1/2(1)*	3.8232D+10	3.8232D+10
121.679	5/2(1)	5.877D-11	3/2(1)*	1.7015D+10	1.7015D+10

Table 11Energy levels (cm^{-1}) and lifetimes (s) in Pt^{46+} (Ge-like).

Occ	$J(\text{No})^P$	E	τ
4622000	0(1)	0	0.000D+00
4621100	1(1)	989113	8.496D-08
4621100	2(1)	1025054	2.137D-06
4612100	2(1)*	1848792	3.589D-11
4612100	1(1)*	1976217	1.835D-12
4620200	2(2)	2041627	4.532D-08
4620200	0(2)	2124078	3.787D-08
4621010	2(2)*	2339354	5.974D-11
4621010	1(2)*	2499580	4.031D-13
4621001	2(3)*	2623339	3.798D-12
4621001	3(1)*	2635375	4.479D-12
4611200	2(4)*	2828859	1.987D-12
4611200	3(2)*	2893274	3.373D-12
4611200	0(1)*	2938474	2.630D-12
4611200	1(3)*	2999443	1.534D-12
4611200	2(5)*	3017721	9.848D-13
4611200	1(4)*	3031951	7.070D-13
4612010	1(2)	3208535	1.419D-11
4612010	2(3)	3240694	1.459D-11
4620110	2(6)*	3467194	4.519D-13
4620110	1(5)*	3480813	5.261D-13
4620110	0(2)*	3484207	5.615D-13
4620110	3(3)*	3486398	5.954D-13
4612001	3(1)	3490059	3.108D-12
4612001	2(4)	3545856	3.296D-12
4620101	4(1)*	3598383	9.470D-08
4620101	2(7)*	3626421	7.518D-12
4620101	3(4)*	3757481	1.012D-12
4620101	1(6)*	3778275	1.709D-12
4602200	2(5)	3882614	1.099D-12
4602200	0(3)	3940922	1.265D-12
4610300	2(8)*	3991919	8.865D-13
4610300	1(7)*	4113996	4.913D-13
4611110	0(4)	4124550	1.256D-11
4611110	1(3)	4127081	1.774D-11

Continued..

Table 11 (contd)

Occ	J(No) ^P	E	τ
4611110	2(6)	4131923	4.766D-12
4611110	3(2)	4152726	1.477D-11
4611110	4(1)	4217517	4.153D-11
4611110	2(7)	4283032	1.398D-12
4611110	3(3)	4304391	6.173D-13
4611110	3(4)	4306456	1.115D-12
4611110	1(4)	4319455	5.707D-13
4611110	2(8)	4321590	4.950D-13
4611101	4(2)	4331150	1.837D-10
4611110	1(5)	4342058	7.315D-13
4611101	5(1)	4418907	4.352D-11
4611101	2(9)	4425685	2.333D-12
4611110	1(6)	4428762	5.448D-13
4611110	2(10)	4437855	4.080D-13
4611101	3(5)	4474263	1.907D-12
4611110	0(5)	4474726	4.311D-13
4611101	1(7)	4508990	7.553D-13
4611101	3(6)	4516050	1.133D-12
4611101	3(7)	4522317	1.093D-12
4611101	2(11)	4525410	1.259D-12
4611101	4(4)	4534314	1.378D-12
4611101	4(3)	4535219	2.778D-12
4611101	1(8)	4597233	1.455D-12
4611101	3(8)	4628109	8.356D-13
4611101	1(9)	4649440	1.084D-12
4611101	2(13)	4655027	6.110D-13
4611101	0(6)	4659057	9.946D-13
4611101	2(12)	4661337	8.933D-13
4620020	2(14)	4915979	2.674D-13
4601300	2(15)	4963211	5.747D-13
4601300	1(10)	4965595	4.366D-13
4620020	0(7)	4966453	2.467D-13
4620011	3(9)	5071835	4.722D-13
4620011	2(16)	5103083	4.511D-13
4620011	1(11)	5109059	4.617D-13
4620011	4(5)	5123486	5.946D-13

Continued...

Table 11 (contd)

Occ	J(No) ^P	E	τ
4602110	2(9)*	5168446	2.348D-12
4602110	0(3)*	5201768	1.961D-12
4602110	3(5)*	5205131	1.578D-12
4602110	1(8)*	5221315	1.479D-12
4620002	4(6)	5250891	2.337D-12
4610210	2(17)	5292362	4.951D-13
4610210	3(10)	5306104	5.144D-13
4610210	1(12)	5308312	4.483D-13
4620002	2(18)	5319517	9.471D-13
4610210	4(7)	5324850	5.057D-13
4610201	0(8)	5350725	2.234D-12
4610201	5(2)	5379822	4.722D-12
4602101	4(2)*	5394434	1.958D-12
4610210	3(11)	5417555	4.062D-13
4610210	1(13)	5420605	4.082D-13
4602101	2(10)*	5450669	1.335D-12
4602101	3(6)*	5452858	1.227D-12
4610210	1(14)	5454069	3.767D-13
4610210	2(19)	5455068	4.359D-13
4610210	0(9)	5465935	3.655D-13
4610201	4(8)	5466234	9.560D-13
4610210	2(20)	5490846	2.936D-13
4611020	2(11)*	5529778	1.715D-12
4610201	3(12)	5551529	1.151D-12
4610201	1(15)	5554696	7.871D-13
4602101	1(9)*	5567360	1.169D-12
4610201	0(10)	5573197	6.570D-13
4610201	4(9)	5601541	6.806D-13
4611020	3(7)*	5604827	1.794D-12
4610201	3(13)	5612336	7.475D-13
4610201	3(14)	5638051	5.556D-13
4610201	2(22)	5654191	6.713D-13
4610201	2(21)	5656437	1.017D-12
4611020	0(4)*	5661072	5.687D-13
4611020	1(10)*	5710778	6.000D-13
4611020	1(11)*	5711624	3.682D-13

Continued...

Table 11 (contd)

Occ	J(No) ^P	E	τ
4610201	1(16)	5721262	4.734D-13
4611020	2(12)*	5734218	4.003D-13
4610201	2(23)	5751176	4.294D-13
4611011	3(8)*	5769537	1.820D-12
4611011	2(13)*	5788681	9.365D-13
4611011	4(3)*	5789013	2.392D-12
4611011	1(12)*	5795424	1.463D-12
4611011	5(1)*	5857913	2.235D-12
4611011	4(4)*	5865544	2.107D-12
4611011	3(9)*	5874665	1.783D-12
4611011	2(14)*	5887222	1.714D-12
4611011	1(13)*	5904262	1.427D-12
4611011	0(5)*	5912013	1.660D-12
4611011	3(10)*	5946594	4.464D-13
4611011	2(15)*	5966561	4.209D-13
4611011	4(5)*	5982041	5.390D-13
4611011	2(16)*	6010056	4.121D-13
4611011	1(14)*	6028766	4.208D-13
4611011	3(11)*	6035218	5.117D-13
4611002	4(6)*	6050366	1.122D-12
4611002	5(2)*	6096048	1.673D-12
4611002	2(17)*	6105693	1.109D-12
4600400	0(11)	6115747	2.789D-13
4611002	3(13)*	6151841	1.230D-12
4611002	4(7)*	6152567	1.521D-12
4611002	3(12)*	6158672	1.242D-12
4601210	2(18)*	6176146	7.483D-13
4601210	4(8)*	6180779	8.228D-13
4611002	0(6)*	6187680	1.112D-12
4611002	2(19)*	6191364	1.137D-12
4601210	1(15)*	6192012	5.885D-13
4611002	1(16)*	6197758	9.687D-13
4601210	3(14)*	6208756	7.066D-13
4601210	0(7)*	6230718	5.567D-13
4611002	1(17)*	6257839	1.030D-12
4601210	2(20)*	6266105	6.339D-13

Continued...

Table 11 (contd)

Occ	J(No) ^P	E	τ
4601210	3(15)*	6297550	3.564D-13
4601210	2(21)*	6337193	3.620D-13
4601201	4(9)*	6340056	8.052D-13
4601210	1(18)*	6350037	3.359D-13
4601201	5(3)*	6378138	1.116D-12
4601210	1(19)*	6398286	3.627D-13
4601201	3(16)*	6408977	5.991D-13
4601201	4(10)*	6421283	7.896D-13
4601201	0(8)*	6474013	6.955D-13
4601201	2(22)*	6486090	9.111D-13
4601201	1(20)*	6491459	5.922D-13
4601201	3(18)*	6501296	6.468D-13
4601201	2(24)*	6504684	5.569D-13
4601201	3(17)*	6514090	8.611D-13
4602020	2(24)	6520651	4.300D-12
4601201	1(21)*	6545129	5.179D-13
4601201	2(23)*	6554070	5.443D-13
4602020	0(12)	6601733	3.862D-12
4610120	1(22)*	6679885	3.184D-13
4610120	2(25)*	6685432	3.153D-13
4610120	0(9)*	6686913	3.367D-13
4610120	3(19)*	6704091	3.429D-13
4610120	4(11)*	6723832	3.538D-13
4610120	2(26)*	6753426	3.226D-13
4602011	3(15)	6775185	2.244D-12
4610111	5(4)*	6792934	6.278D-13
4610111	4(12)*	6806976	5.679D-13
4610120	1(23)*	6814661	2.866D-13
4602011	2(25)	6815529	2.105D-12
4610111	3(20)*	6817862	6.546D-13
4602011	4(10)	6824464	1.840D-12
4610120	2(27)*	6829607	2.832D-13
4610120	3(21)*	6832874	2.983D-13
4602011	1(17)	6834541	1.933D-12
4610111	1(24)*	6892606	4.474D-13
4610111	2(28)*	6896841	4.450D-13

Continued...

Table 11 (contd)

Occ	J(No) ^P	E	τ
4610111	3(22)*	6906842	4.973D-13
4610111	4(13)*	6924813	5.826D-13
4610111	0(10)*	6930918	4.705D-13
4610111	3(23)*	6935783	3.864D-13
4610111	4(15)*	6940263	4.957D-13
4610120	1(25)*	6941834	3.119D-13
4610120	1(26)*	6944620	2.766D-13
4610111	4(14)*	6962817	4.634D-13
4610111	2(29)*	6969200	4.541D-13
4610111	3(25)*	6978639	5.040D-13
4610111	2(30)*	6981088	3.832D-13
4610111	5(5)*	6984999	6.026D-13
4610111	3(24)*	6988636	4.776D-13
4610111	2(31)*	6998314	4.614D-13
4610111	5(6)*	7017714	4.772D-13
4610102	3(26)*	7042146	6.179D-13
4610111	1(27)*	7042607	4.277D-13
4602002	4(11)	7047924	1.454D-12
4610102	4(16)*	7051703	9.582D-13
4610102	5(7)*	7060240	7.080D-13

Table 12Transitions in Pt⁴⁶⁺ (Ge-like).

λ	Upper	τ	Lower	A	A_{br}
36.989	0(5)*	1.662D-12	1(2)	1.4765D+11	3.6223D+10
37.096	1(13)*	1.428D-12	1(2)	2.4568D+11	8.6184D+10
37.274	0(6)	9.951D-13	1(1)*	2.6178D+11	6.8194D+10
37.492	3(6)	1.133D-12	2(1)*	1.9979D+11	4.5245D+10
37.709	1(16)*	9.692D-13	2(4)	1.2562D+11	1.5295D+10
37.800	2(19)*	1.138D-12	2(4)	1.2611D+11	1.8095D+10
38.033	3(23)*	3.865D-13	3(4)	2.3755D+11	2.1810D+10
38.088	3(5)	1.908D-12	2(1)*	1.2824D+11	3.1379D+10
38.233	4(6)	2.337D-12	3(1)*	7.2973D+10	1.2446D+10
38.465	1(25)*	3.120D-13	1(5)	2.1352D+11	1.4224D+10
38.656	1(12)*	1.463D-12	1(2)	8.5764D+10	1.0759D+10
38.810	2(14)	2.674D-13	2(2)*	1.7821D+12	8.4913D+11
38.854	0(10)	6.571D-13	1(3)*	1.2999D+11	1.1103D+10
38.878	3(19)*	3.429D-13	2(6)	2.1754D+11	1.6228D+10
39.058	4(6)*	1.122D-12	3(1)	1.9094D+11	4.0920D+10
39.065	0(9)*	3.367D-13	1(3)	1.8191D+12	1.1141D+12
39.088	2(25)*	3.153D-13	1(3)	4.2971D+11	5.8228D+10
39.134	1(22)*	3.184D-13	0(4)	5.0961D+11	8.2692D+10
39.162	2(25)*	3.153D-13	2(6)	4.8110D+11	7.2987D+10
39.195	3(19)*	3.429D-13	3(2)	8.0030D+11	2.1964D+11
39.218	3(21)*	2.984D-13	2(7)	2.8056D+11	2.3486D+10
39.228	2(11)	1.260D-12	1(1)*	2.7596D+11	9.5922D+10
39.247	2(13)*	9.366D-13	2(3)	5.3813D+11	2.7121D+11
39.247	1(22)*	3.184D-13	2(6)	1.0445D+12	3.4736D+11
39.268	2(27)*	2.832D-13	2(7)	6.0897D+11	1.0501D+11
39.351	0(10)	6.571D-13	1(4)*	1.5543D+11	1.5875D+10
39.466	3(12)	1.152D-12	2(5)*	1.6880D+11	3.2825D+10
39.482	1(7)	7.556D-13	1(1)*	9.4058D+11	6.6844D+11
39.483	2(25)*	3.153D-13	3(2)	6.3117D+11	1.2562D+11
39.500	1(23)*	2.866D-13	2(7)	4.4128D+11	5.5813D+10
39.505	2(29)*	4.542D-13	2(10)	3.7223D+11	6.2937D+10
39.535	4(16)*	9.585D-13	3(7)	1.2510D+11	1.5001D+10
39.582	3(21)*	2.984D-13	3(4)	1.0333D+12	3.1856D+11
39.589	5(7)*	7.081D-13	4(4)	1.3112D+11	1.2174D+10
39.593	2(12)*	4.003D-13	1(2)	2.0067D+11	1.6119D+10

Continued...

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
39.639	1(15)	7.873D-13	1(4)*	1.3446D+11	1.4234D+10
39.685	3(26)*	6.180D-13	3(7)	5.4955D+11	1.8664D+11
39.724	4(16)*	9.585D-13	4(4)	1.7710D+11	3.0060D+10
39.752	1(14)	3.767D-13	0(1)*	1.8158D+11	1.2421D+10
39.792	1(25)*	3.120D-13	1(6)	3.4403D+11	3.6925D+10
39.875	3(26)*	6.180D-13	4(4)	1.7212D+11	1.8308D+10
39.891	2(30)*	3.832D-13	3(5)	2.6827D+11	2.7577D+10
39.892	1(26)*	2.766D-13	2(10)	8.2991D+11	1.9054D+11
39.899	4(11)*	3.538D-13	4(1)	1.2888D+12	5.8767D+11
39.936	1(25)*	3.120D-13	2(10)	4.7979D+11	7.1818D+10
39.951	1(11)*	3.682D-13	1(2)	1.5990D+12	9.4127D+11
39.964	1(10)*	6.000D-13	1(2)	8.3987D+11	4.2325D+11
39.966	0(10)*	4.706D-13	1(6)	5.8221D+11	1.5952D+11
40.007	1(2)*	4.031D-13	0(1)	2.4707D+12	2.4610D+12
40.024	0(5)	4.311D-13	1(1)*	1.6162D+12	1.1261D+12
40.077	1(23)*	2.866D-13	1(4)	2.3123D+11	1.5325D+10
40.079	0(2)*	5.615D-13	1(1)	1.7809D+12	1.7808D+12
40.104	2(12)*	4.003D-13	2(3)	2.1161D+12	1.7925D+12
40.108	1(5)	7.315D-13	2(1)*	3.3080D+11	8.0050D+10
40.129	4(5)*	5.390D-13	3(1)	1.2000D+12	7.7616D+11
40.133	1(5)*	5.261D-13	1(1)	1.6376D+12	1.4109D+12
40.138	2(20)	2.936D-13	1(3)*	3.1854D+11	2.9791D+10
40.150	2(18)	9.472D-13	2(4)*	1.1636D+11	1.2824D+10
40.171	3(11)*	5.118D-13	2(4)	1.3670D+12	9.5635D+11
40.184	4(14)*	4.635D-13	3(5)	3.4588D+11	5.5453D+10
40.191	4(5)	5.946D-13	3(1)*	1.3041D+12	1.0113D+12
40.214	3(20)*	6.546D-13	4(2)	1.4257D+12	1.3306D+12
40.216	3(19)*	3.429D-13	4(1)	3.3467D+11	3.8410D+10
40.230	1(11)	4.617D-13	2(3)*	1.9225D+12	1.7065D+12
40.267	5(6)*	4.773D-13	4(4)	8.9035D+11	3.7835D+11
40.275	1(14)*	4.208D-13	2(4)	2.0026D+12	1.6877D+12
40.288	1(13)	4.082D-13	0(1)*	5.5878D+11	1.2745D+11
40.304	3(22)*	4.973D-13	2(9)	4.2576D+11	9.0145D+10
40.327	2(16)	4.511D-13	2(3)*	1.4753D+12	9.8177D+11
40.331	1(12)	4.483D-13	2(4)*	1.3825D+12	8.5695D+11
40.354	2(6)*	4.519D-13	1(1)	9.2522D+11	3.8684D+11

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
40.367	3(10)	5.144D-13	2(4)*	5.0957D+11	1.3358D+11
40.380	2(15)*	4.209D-13	3(1)	1.8601D+12	1.4563D+12
40.388	2(31)*	4.614D-13	3(7)	7.9601D+11	2.9238D+11
40.391	4(12)*	5.679D-13	4(2)	1.0784D+12	6.6043D+11
40.435	2(20)	2.936D-13	2(5)*	6.2806D+11	1.1581D+11
40.440	2(8)	4.950D-13	2(1)*	1.9363D+12	1.8558D+12
40.443	1(23)*	2.866D-13	1(5)	1.1261D+12	3.6345D+11
40.443	3(24)*	4.777D-13	3(6)	4.3711D+11	9.1273D+10
40.467	2(28)*	4.450D-13	2(9)	8.3592D+11	3.1096D+11
40.471	1(11)*	3.682D-13	2(3)	1.0105D+12	3.7590D+11
40.475	1(4)	5.707D-13	2(1)*	1.4897D+12	1.2665D+12
40.484	1(10)*	6.000D-13	2(3)	7.0935D+11	3.0192D+11
40.488	1(26)*	2.766D-13	0(5)	2.0192D+11	1.1279D+10
40.523	2(16)	4.511D-13	3(1)*	4.3445D+11	8.5146D+10
40.528	1(18)*	3.360D-13	2(5)	1.7184D+12	9.9216D+11
40.533	1(25)*	3.120D-13	0(5)	4.5598D+11	6.4867D+10
40.536	1(24)*	4.475D-13	2(9)	1.2442D+12	6.9265D+11
40.537	0(7)	2.467D-13	1(2)*	4.0367D+12	4.0193D+12
40.543	0(9)	3.656D-13	1(3)*	6.3724D+11	1.4844D+11
40.567	2(30)*	3.832D-13	3(6)	1.1338D+12	4.9260D+11
40.581	2(16)*	4.122D-13	2(4)	1.8959D+12	1.4815D+12
40.593	2(17)	4.951D-13	2(4)*	1.0344D+12	5.2974D+11
40.597	3(24)*	4.777D-13	2(11)	4.6123D+11	1.0163D+11
40.608	3(25)*	5.040D-13	3(6)	1.5805D+11	1.2589D+10
40.621	5(4)*	6.278D-13	4(2)	4.4719D+11	1.2555D+11
40.623	2(10)	4.080D-13	1(1)*	1.3506D+12	7.4426D+11
40.625	3(23)*	3.865D-13	3(5)	2.3791D+11	2.1875D+10
40.628	3(3)*	5.954D-13	2(1)	1.6785D+12	1.6774D+12
40.647	2(29)*	4.542D-13	1(7)	5.7095D+11	1.4808D+11
40.669	2(20)	2.936D-13	1(4)*	3.3133D+11	3.2231D+10
40.694	1(19)*	3.627D-13	0(3)	1.2977D+12	6.1078D+11
40.708	3(10)*	4.464D-13	3(1)	1.8474D+12	1.5234D+12
40.711	3(25)*	5.040D-13	3(7)	4.2434D+11	9.0751D+10
40.721	1(5)*	5.261D-13	2(1)	2.5395D+11	3.3930D+10
40.723	2(19)	4.359D-13	1(3)*	8.0970D+11	2.8581D+11
40.723	3(3)	6.173D-13	2(1)*	1.5234D+12	1.4326D+12

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
40.739	1(14)	3.767D-13	1(3)*	4.7322D+11	8.4361D+10
40.740	2(21)*	3.620D-13	2(5)	1.4623D+12	7.7417D+11
40.759	3(24)*	4.777D-13	4(3)	1.6744D+11	1.3393D+10
40.774	1(6)	5.448D-13	1(1)*	1.3295D+12	9.6301D+11
40.774	0(4)*	5.687D-13	1(2)	1.6817D+12	1.6084D+12
40.807	4(13)*	5.826D-13	3(5)	5.7025D+11	1.8947D+11
40.820	5(5)*	6.028D-13	4(3)	8.9234D+11	4.7996D+11
40.832	2(26)*	3.226D-13	3(3)	1.3267D+12	5.6773D+11
40.841	3(9)	4.722D-13	2(3)*	6.9922D+11	2.3084D+11
40.870	4(14)*	4.635D-13	3(6)	1.7127D+11	1.3597D+10
40.894	1(27)*	4.277D-13	1(8)	4.6347D+11	9.1879D+10
40.911	3(25)*	5.040D-13	4(4)	2.2043D+11	2.4489D+10
40.920	2(29)*	4.542D-13	2(11)	3.4268D+11	5.3341D+10
40.948	2(6)*	4.519D-13	2(1)	1.2854D+12	7.4670D+11
41.043	3(9)	4.722D-13	3(1)*	1.1476D+12	6.2181D+11
41.045	1(14)	3.767D-13	2(5)*	2.0486D+11	1.5810D+10
41.057	1(26)*	2.766D-13	1(7)	8.8688D+11	2.1759D+11
41.081	2(7)	1.398D-12	2(1)*	1.2029D+11	2.0235D+10
41.085	0(9)	3.656D-13	1(4)*	7.8713D+11	2.2649D+11
41.085	2(26)*	3.226D-13	1(4)	4.1768D+11	5.6273D+10
41.104	1(25)*	3.120D-13	1(7)	4.5380D+11	6.4248D+10
41.109	3(22)*	4.973D-13	3(5)	5.4773D+11	1.4919D+11
41.121	2(26)*	3.226D-13	2(8)	9.2595D+11	2.7656D+11
41.126	4(7)	5.057D-13	3(2)*	1.2404D+12	7.7805D+11
41.193	4(14)*	4.635D-13	4(3)	8.6316D+11	3.4535D+11
41.269	2(19)	4.359D-13	1(4)*	4.9762D+11	1.0795D+11
41.278	2(28)*	4.450D-13	3(5)	2.9773D+11	3.9449D+10
41.286	1(14)	3.767D-13	1(4)*	3.3262D+11	4.1678D+10
41.289	0(10)*	4.706D-13	1(7)	9.4414D+11	4.1949D+11
41.327	3(23)*	3.865D-13	3(6)	2.6714D+11	2.7583D+10
41.332	4(11)*	3.538D-13	3(3)	1.1897D+12	5.0074D+11
41.336	1(26)*	2.766D-13	2(11)	4.2088D+11	4.9004D+10
41.357	4(15)*	4.957D-13	3(7)	2.4714D+11	3.0278D+10
41.384	2(14)	2.674D-13	1(2)*	1.9207D+12	9.8631D+11
41.409	3(15)*	3.564D-13	2(5)	1.2759D+12	5.8023D+11
41.445	3(10)	5.144D-13	3(2)*	8.6411D+11	3.8413D+11

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
41.487	3(23)*	3.865D-13	2(11)	7.5440D+11	2.1997D+11
41.509	1(18)*	3.360D-13	0(3)	1.7669D+11	1.0489D+10
41.515	4(13)*	5.826D-13	3(6)	5.0962D+11	1.5132D+11
41.564	4(15)*	4.957D-13	4(4)	7.2008D+11	2.5705D+11
41.617	1(13)	4.082D-13	2(5)*	2.0775D+11	1.7618D+10
41.648	2(31)*	4.614D-13	1(8)	2.2908D+11	2.4214D+10
41.652	2(27)*	2.832D-13	1(6)	9.7597D+11	2.6972D+11
41.657	3(23)*	3.865D-13	4(3)	1.9229D+11	1.4290D+10
41.670	3(11)	4.062D-13	2(5)*	8.5061D+11	2.9389D+11
41.672	3(19)*	3.429D-13	3(3)	3.6213D+11	4.4970D+10
41.683	2(17)	4.951D-13	3(2)*	3.2840D+11	5.3393D+10
41.753	3(21)*	2.984D-13	2(10)	8.4379D+11	2.1243D+11
41.810	2(27)*	2.832D-13	2(10)	5.7474D+11	9.3537D+10
41.865	1(13)	4.082D-13	1(4)*	7.0066D+11	2.0039D+11
41.875	4(12)*	5.679D-13	5(1)	4.2403D+11	1.0211D+11
41.883	1(27)*	4.277D-13	2(13)	1.9448D+11	1.6178D+10
41.913	1(23)*	2.866D-13	1(6)	6.3781D+11	1.1660D+11
41.954	1(27)*	4.277D-13	0(6)	6.0031D+11	1.5414D+11
41.955	2(20)*	6.340D-13	2(5)	1.2810D+11	1.0404D+10
41.973	3(19)*	3.429D-13	2(8)	1.0646D+12	3.8865D+11
42.097	4(4)*	2.109D-12	3(1)	1.3088D+11	3.6123D+10
42.123	5(4)*	6.278D-13	5(1)	1.0977D+12	7.5646D+11
42.169	2(28)*	4.450D-13	2(11)	1.9136D+11	1.6297D+10
42.239	0(9)*	3.367D-13	1(4)	7.6830D+11	1.9873D+11
42.244	1(24)*	4.475D-13	2(11)	2.1156D+11	2.0027D+10
42.266	2(25)*	3.153D-13	1(4)	4.4426D+11	6.2236D+10
42.299	3(7)*	1.795D-12	2(3)	4.4805D+11	3.6027D+11
42.304	2(25)*	3.153D-13	2(8)	8.1524D+11	2.0958D+11
42.365	1(22)*	3.184D-13	1(4)	9.6698D+11	2.9773D+11
42.647	0(9)*	3.367D-13	1(5)	2.9889D+11	3.0077D+10
42.675	2(31)*	4.614D-13	2(13)	1.9810D+11	1.8109D+10
42.736	1(23)*	2.866D-13	0(5)	2.6472D+11	2.0086D+10
43.080	2(11)*	1.715D-12	1(2)	5.0793D+11	4.4255D+11
43.126	0(8)	2.234D-12	1(4)*	7.4349D+10	1.2349D+10
43.404	3(2)	1.478D-11	2(1)*	3.6724D+10	1.9928D+10
43.800	2(6)	4.767D-12	2(1)*	1.1352D+11	6.1428D+10

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
43.870	3(8)*	1.820D-12	3(1)	7.9546D+10	1.1517D+10
46.548	0(4)	1.256D-11	1(1)*	5.3225D+10	3.5590D+10
46.800	1(10)	4.366D-13	2(4)*	3.2282D+11	4.5497D+10
47.537	0(7)*	5.568D-13	1(3)	4.7890D+11	1.2771D+11
47.653	2(10)	4.080D-13	2(2)*	1.9265D+11	1.5143D+10
47.736	1(16)	4.735D-13	2(7)*	4.8189D+11	1.0994D+11
47.792	0(10)	6.571D-13	1(5)*	1.3643D+11	1.2231D+10
47.860	1(6)	5.448D-13	2(2)*	1.3854D+11	1.0457D+10
48.081	2(23)*	5.444D-13	3(5)	1.3763D+11	1.0312D+10
48.254	1(7)*	4.913D-13	2(2)	1.2723D+12	7.9527D+11
48.311	2(15)	5.747D-13	3(2)*	1.6650D+11	1.5933D+10
48.408	1(20)*	5.923D-13	2(9)	1.5139D+11	1.3576D+10
48.423	3(12)	1.152D-12	3(3)*	1.5745D+11	2.8557D+10
48.542	1(15)*	5.887D-13	2(6)	3.3354D+11	6.5486D+10
48.637	3(14)*	7.067D-13	3(2)	3.6830D+11	9.5865D+10
48.704	2(29)*	4.542D-13	2(14)	1.5441D+11	1.0830D+10
48.894	0(8)*	6.957D-13	1(6)	1.7541D+11	2.1404D+10
48.918	2(18)*	7.484D-13	2(6)	3.1594D+11	7.4704D+10
48.952	1(4)*	7.070D-13	1(1)	4.9732D+11	1.7485D+11
49.169	2(5)	1.099D-12	2(1)*	2.8097D+11	8.6773D+10
49.220	2(13)	6.111D-13	2(3)*	2.9468D+11	5.3071D+10
49.315	2(22)	6.714D-13	2(7)*	2.7341D+11	5.0187D+10
49.331	1(10)	4.366D-13	0(1)*	3.2217D+11	4.5313D+10
49.356	1(9)	1.084D-12	2(3)*	2.5895D+11	7.2696D+10
49.359	2(12)	8.933D-13	3(1)*	4.8942D+11	2.1397D+11
49.362	1(25)*	3.120D-13	2(14)	5.0707D+11	8.0217D+10
49.416	2(20)	2.936D-13	2(6)*	1.1166D+12	3.6606D+11
49.421	2(18)*	7.484D-13	3(2)	1.5552D+11	1.8102D+10
49.468	1(9)*	1.170D-12	2(4)	3.4620D+11	1.4019D+11
49.510	3(23)*	3.865D-13	2(14)	3.2928D+11	4.1906D+10
49.513	2(13)	6.111D-13	3(1)*	3.1977D+11	6.2492D+10
49.613	2(21)*	3.620D-13	2(8)	2.9357D+11	3.1201D+10
49.654	3(13)	7.476D-13	4(1)*	1.0287D+12	7.9114D+11
49.683	1(8)*	1.480D-12	1(2)	3.5231D+11	1.8365D+11
49.743	1(3)*	1.534D-12	1(1)	5.5272D+11	4.6875D+11
49.750	2(20)	2.936D-13	1(5)*	5.2770D+11	8.1759D+10

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
49.766	1(7)	7.556D-13	1(2)*	1.8147D+11	2.4881D+10
49.778	4(9)*	8.054D-13	4(2)	3.2106D+11	8.3024D+10
49.828	1(4)*	7.070D-13	2(1)	8.8781D+11	5.5723D+11
49.889	2(20)	2.936D-13	3(3)*	4.5471D+11	6.0706D+10
49.921	4(9)	6.808D-13	4(1)*	8.9514D+11	5.4551D+11
49.932	1(5)	7.315D-13	2(2)*	8.7300D+11	5.5753D+11
49.956	0(11)	2.789D-13	1(7)*	3.5319D+12	3.4796D+12
50.158	2(23)	4.294D-13	3(4)*	9.4400D+11	3.8269D+11
50.170	0(3)*	1.962D-12	1(2)	3.8117D+11	2.8506D+11
50.172	3(15)*	3.564D-13	3(3)	3.1528D+11	3.5430D+10
50.182	3(8)	8.358D-13	3(1)*	4.6373D+11	1.7974D+11
50.184	2(5)*	9.848D-13	2(1)	9.8865D+11	9.6261D+11
50.220	3(14)*	7.067D-13	4(1)	1.2261D+11	1.0625D+10
50.253	1(7)*	4.913D-13	0(2)	7.5654D+11	2.8120D+11
50.355	3(13)	7.476D-13	2(7)*	1.7665D+11	2.3328D+10
50.375	0(9)	3.656D-13	1(5)*	9.7570D+11	3.4801D+11
50.421	3(16)*	5.993D-13	2(9)	2.3656D+11	3.3537D+10
50.489	1(8)*	1.480D-12	2(3)	1.2203D+11	2.2033D+10
50.502	1(4)	5.707D-13	2(2)*	1.6958D+11	1.6411D+10
50.511	3(17)*	8.613D-13	4(4)	4.4199D+11	1.6826D+11
50.534	3(17)*	8.613D-13	4(3)	2.3115D+11	4.6022D+10
50.552	1(26)*	2.766D-13	0(7)	8.0986D+11	1.8144D+11
50.602	1(1)*	1.835D-12	0(1)	4.8929D+11	4.3923D+11
50.623	1(25)*	3.120D-13	0(7)	3.2128D+11	3.2204D+10
50.629	0(5)	4.311D-13	1(2)*	6.2711D+11	1.6954D+11
50.652	2(19)	4.359D-13	1(5)*	1.6088D+11	1.1283D+10
50.661	1(8)	1.456D-12	2(3)*	1.9270D+11	5.4053D+10
50.678	1(14)	3.767D-13	1(5)*	6.8508D+11	1.7681D+11
50.687	2(23)	4.294D-13	1(6)*	2.0301D+11	1.7699D+10
50.765	1(14)	3.767D-13	0(2)*	5.5419D+11	1.1570D+11
50.774	1(19)*	3.627D-13	1(6)	2.0238D+11	1.4855D+10
50.796	2(19)	4.359D-13	3(3)*	6.1983D+11	1.6749D+11
50.836	3(4)	1.115D-12	2(2)*	7.8392D+11	6.8500D+11
50.863	1(20)*	5.923D-13	2(11)	5.0915D+11	1.5355D+11
50.890	0(8)*	6.957D-13	1(7)	1.3641D+11	1.2945D+10
50.898	0(3)	1.265D-12	1(1)*	6.9023D+11	6.0279D+11

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
50.905	3(5)*	1.578D-12	2(3)	4.6460D+11	3.4063D+11
50.922	2(22)*	9.114D-13	3(7)	4.1425D+11	1.5640D+11
50.923	2(15)	5.747D-13	1(3)*	2.5447D+11	3.7218D+10
50.936	4(8)*	8.229D-13	4(1)	2.3287D+11	4.4627D+10
50.948	3(6)*	1.228D-12	3(1)	1.4801D+11	2.6895D+10
51.005	2(10)*	1.335D-12	3(1)	9.0245D+10	1.0873D+10
51.009	1(19)*	3.627D-13	2(10)	4.4840D+11	7.2926D+10
51.023	2(9)*	2.349D-12	1(2)	1.5411D+11	5.5794D+10
51.030	2(20)*	6.340D-13	3(4)	5.2129D+11	1.7229D+11
51.040	5(3)*	1.117D-12	5(1)	2.6528D+11	7.8571D+10
51.193	1(13)	4.082D-13	2(6)*	7.8191D+11	2.4956D+11
51.273	3(11)	4.062D-13	2(6)*	6.1877D+11	1.5552D+11
51.274	2(8)*	8.866D-13	2(2)	1.1218D+12	1.1157D+12
51.299	0(1)*	2.630D-12	1(1)	3.8029D+11	3.8029D+11
51.337	1(21)*	5.180D-13	1(8)	2.8778D+11	4.2896D+10
51.338	1(10)	4.366D-13	2(5)*	3.3719D+11	4.9639D+10
51.361	4(10)*	7.899D-13	3(5)	1.3527D+11	1.4452D+10
51.401	2(15)	5.747D-13	2(5)*	1.1596D+12	7.7278D+11
51.449	2(7)	1.398D-12	2(2)*	4.9235D+11	3.3900D+11
51.467	1(16)	4.735D-13	1(6)*	8.4550D+11	3.3845D+11
51.571	3(26)*	6.180D-13	2(16)	1.6723D+11	1.7283D+10
51.592	2(10)	4.080D-13	1(2)*	7.9373D+11	2.5705D+11
51.716	1(10)	4.366D-13	1(4)*	1.1576D+12	5.8504D+11
51.782	3(11)	4.062D-13	3(3)*	8.5062D+11	2.9390D+11
51.835	1(6)	5.448D-13	1(2)*	2.7843D+11	4.2234D+10
51.860	1(15)	7.873D-13	2(7)*	8.2094D+11	5.3060D+11
51.874	2(9)*	2.349D-12	2(3)	1.1705D+11	3.2186D+10
51.922	2(23)*	5.444D-13	3(8)	5.0812D+11	1.4057D+11
51.929	3(14)*	7.067D-13	2(7)	4.4216D+11	1.3817D+11
51.945	3(12)	1.152D-12	2(7)*	4.2937D+11	2.1237D+11
51.974	2(20)*	6.340D-13	1(5)	3.5573D+11	8.0231D+10
51.987	1(19)*	3.627D-13	0(5)	2.8731D+11	2.9940D+10
52.049	1(18)*	3.360D-13	1(6)	2.8437D+11	2.7169D+10
52.168	3(21)*	2.984D-13	2(14)	9.4689D+11	2.6751D+11
52.257	2(27)*	2.832D-13	2(14)	7.0472D+11	1.4063D+11
52.384	1(15)*	5.887D-13	2(7)	2.3039D+11	3.1245D+10

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
52.399	2(21)*	3.620D-13	1(6)	3.4490D+11	4.3066D+10
52.455	2(5)	1.099D-12	1(1)*	5.1645D+11	2.9317D+11
52.499	2(10)*	1.335D-12	2(4)	3.8008D+11	1.9288D+11
52.511	4(2)*	1.959D-12	3(1)	3.5445D+11	2.4613D+11
52.568	3(14)*	7.067D-13	3(4)	1.6287D+11	1.8747D+10
52.636	4(3)	2.781D-12	3(1)*	1.4638D+11	5.9585D+10
52.660	3(7)	1.093D-12	2(3)*	3.6301D+11	1.4408D+11
52.661	2(21)	1.017D-12	3(4)*	1.7946D+11	3.2762D+10
52.661	4(4)	1.378D-12	3(1)*	2.8502D+11	1.1193D+11
52.668	1(23)*	2.866D-13	2(14)	3.7949D+11	4.1276D+10
52.792	5(6)*	4.773D-13	4(5)	4.0536D+11	7.8426D+10
52.823	2(18)*	7.484D-13	2(7)	4.9577D+11	1.8395D+11
52.828	3(16)*	5.993D-13	3(6)	2.9392D+11	5.1774D+10
52.834	2(23)*	5.444D-13	2(12)	2.6140D+11	3.7202D+10
52.834	3(6)	1.133D-12	2(3)*	1.0473D+11	1.2433D+10
52.883	4(14)*	4.635D-13	3(9)	2.9998D+11	4.1712D+10
52.907	1(21)*	5.180D-13	2(13)	5.1041D+11	1.3494D+11
52.909	2(11)	1.260D-12	3(1)*	1.7296D+11	3.7679D+10
52.942	2(22)*	9.114D-13	1(8)	1.2973D+11	1.5340D+10
52.948	0(7)*	5.568D-13	1(5)	7.6691D+11	3.2750D+11
52.995	4(10)*	7.899D-13	4(4)	1.5078D+11	1.7956D+10
53.004	3(16)*	5.993D-13	3(7)	2.4343D+11	3.5515D+10
53.020	4(10)*	7.899D-13	4(3)	3.4632D+11	9.4734D+10
53.035	3(24)*	4.777D-13	2(16)	1.8653D+11	1.6621D+10
53.172	3(6)	1.133D-12	3(1)*	1.6728D+11	3.1718D+10
53.175	3(14)	5.556D-13	3(4)*	6.8170D+11	2.5818D+11
53.244	2(21)	1.017D-12	1(6)*	4.8375D+11	2.3806D+11
53.283	0(8)*	6.957D-13	1(8)	9.8573D+11	6.7597D+11
53.294	4(8)*	8.229D-13	3(3)	1.2986D+11	1.3876D+10
53.324	1(18)*	3.360D-13	0(5)	2.0241D+11	1.3765D+10
53.353	4(8)*	8.229D-13	3(4)	6.2829D+11	3.2485D+11
53.385	3(18)*	6.469D-13	3(8)	5.5163D+11	1.9686D+11
53.403	1(15)*	5.887D-13	1(4)	2.2149D+11	2.8879D+10
53.478	0(8)	2.234D-12	1(5)*	8.6039D+10	1.6538D+10
53.521	4(15)*	4.957D-13	3(9)	1.7265D+11	1.4776D+10
53.527	3(2)*	3.373D-12	2(1)	2.8065D+11	2.6568D+11

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
53.537	4(8)	9.561D-13	4(1)*	5.5652D+11	2.9611D+11
53.720	5(5)*	6.028D-13	4(5)	3.9550D+11	9.4284D+10
53.772	3(15)*	3.564D-13	2(10)	7.0989D+11	1.7962D+11
53.974	3(17)*	8.613D-13	2(12)	2.5113D+11	5.4321D+10
54.055	1(15)*	5.887D-13	1(5)	3.4852D+11	7.1501D+10
54.064	2(24)*	5.570D-13	2(13)	4.0450D+11	9.1137D+10
54.182	0(6)*	1.112D-12	1(5)	1.9331D+11	4.1561D+10
54.228	4(9)	6.808D-13	3(4)*	5.0979D+11	1.7693D+11
54.235	5(3)*	1.117D-12	4(4)	5.6487D+11	3.5626D+11
54.288	1(20)*	5.923D-13	1(9)	1.4947D+11	1.3233D+10
54.355	2(4)*	1.987D-12	1(1)	4.8166D+11	4.6095D+11
54.380	3(10)	5.144D-13	2(6)*	3.6614D+11	6.8966D+10
54.381	3(5)	1.908D-12	3(1)*	9.3395D+10	1.6644D+10
54.394	4(7)	5.057D-13	3(3)*	6.5655D+11	2.1800D+11
54.447	2(22)*	9.114D-13	1(9)	3.0179D+11	8.3008D+10
54.496	3(22)*	4.973D-13	3(9)	3.4598D+11	5.9527D+10
54.641	1(20)*	5.923D-13	2(12)	4.3837D+11	1.1382D+11
54.720	1(12)	4.483D-13	1(5)*	2.7756D+11	3.4541D+10
54.821	1(12)	4.483D-13	0(2)*	3.5183D+11	5.5496D+10
54.889	0(10)*	4.706D-13	1(11)	1.5779D+11	1.1716D+10
54.928	1(9)	1.084D-12	2(4)*	1.0637D+11	1.2266D+10
55.013	4(9)*	8.054D-13	3(7)	6.4041D+11	3.3033D+11
55.201	2(17)	4.951D-13	1(5)*	3.1549D+11	4.9276D+10
55.483	2(9)	2.333D-12	2(3)*	2.4134D+11	1.3591D+11
55.495	0(7)*	5.568D-13	1(6)	1.8056D+11	1.8153D+10
55.515	4(13)*	5.826D-13	4(5)	2.6776D+11	4.1773D+10
55.713	0(10)	6.571D-13	1(6)*	1.0479D+12	7.2152D+11
55.749	2(28)*	4.450D-13	2(16)	1.8620D+11	1.5429D+10
55.767	4(10)*	7.899D-13	3(8)	3.0987D+11	7.5843D+10
55.827	3(26)*	6.180D-13	4(6)	1.2978D+11	1.0409D+10
56.025	0(5)*	1.662D-12	1(3)	1.6108D+11	4.3113D+10
56.068	1(24)*	4.475D-13	1(11)	2.7154D+11	3.2994D+10
56.134	5(2)	4.722D-12	4(1)*	2.1176D+11	2.1176D+11
57.014	3(16)*	5.993D-13	2(13)	4.1766D+11	1.0454D+11
57.150	3(26)*	6.180D-13	2(17)	2.4270D+11	3.6403D+10
57.287	4(16)*	9.585D-13	3(10)	1.2117D+11	1.4071D+10

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
57.582	1(6)*	1.709D-12	2(2)	1.6358D+11	4.5734D+10
57.624	5(7)*	7.081D-13	4(7)	3.2052D+11	7.2742D+10
57.642	3(8)	8.358D-13	3(2)*	1.2974D+11	1.4069D+10
57.654	2(14)*	1.715D-12	3(2)	9.6115D+10	1.5846D+10
57.722	1(17)*	1.031D-12	2(11)	2.1701D+11	4.8546D+10
57.825	1(16)	4.735D-13	2(8)*	1.8174D+11	1.5637D+10
57.932	3(13)*	1.231D-12	2(9)	9.4264D+10	1.0939D+10
58.074	3(9)*	1.785D-12	3(2)	1.1550D+11	2.3812D+10
58.166	4(6)*	1.122D-12	4(2)	1.9842D+11	4.4189D+10
58.238	2(19)*	1.138D-12	3(5)	1.1696D+11	1.5564D+10
58.280	3(4)*	1.012D-12	2(2)	9.5460D+11	9.2261D+11
58.522	4(8)	9.561D-13	3(4)*	4.5502D+11	1.9794D+11
58.925	2(4)	3.300D-12	2(1)*	8.2159D+10	2.2275D+10
59.051	3(7)	1.093D-12	2(4)*	4.8291D+11	2.5499D+11
59.063	2(18)	9.472D-13	2(7)*	5.1842D+11	2.5456D+11
59.071	5(6)*	4.773D-13	4(7)	6.7035D+11	2.1448D+11
59.172	2(31)*	4.614D-13	1(12)	2.6075D+11	3.1373D+10
59.215	1(16)*	9.692D-13	1(7)	2.0787D+11	4.1881D+10
59.254	0(9)	3.656D-13	1(6)*	3.2983D+11	3.9768D+10
59.270	3(6)	1.133D-12	2(4)*	2.7828D+11	8.7780D+10
59.302	3(25)*	5.040D-13	2(17)	2.2711D+11	2.5995D+10
59.368	3(12)*	1.242D-12	3(5)	2.7187D+11	9.1790D+10
59.509	5(7)*	7.081D-13	5(2)	5.3015D+11	1.9901D+11
59.524	2(17)*	1.110D-12	2(9)	5.1404D+11	2.9319D+11
59.570	0(6)*	1.112D-12	1(7)	2.4391D+11	6.6170D+10
59.607	4(5)*	5.390D-13	3(3)	3.5745D+11	6.8865D+10
59.625	5(2)*	1.674D-12	5(1)	1.8631D+11	5.8097D+10
59.781	2(30)*	3.832D-13	1(12)	4.0221D+11	6.1991D+10
59.789	3(25)*	5.040D-13	3(10)	2.1369D+11	2.3014D+10
59.813	4(16)*	9.585D-13	5(2)	1.4312D+11	1.9631D+10
59.849	1(12)*	1.463D-12	0(4)	2.2829D+11	7.6235D+10
59.940	1(12)*	1.463D-12	1(3)	2.3694D+11	8.2122D+10
60.026	2(19)*	1.138D-12	2(11)	1.9678D+11	4.4061D+10
60.159	2(22)	6.714D-13	2(8)*	9.4824D+11	6.0365D+11
60.172	2(12)	8.933D-13	1(3)*	3.2378D+11	9.3649D+10
60.183	2(13)*	9.366D-13	1(3)	2.1948D+11	4.5113D+10

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
60.236	5(5)*	6.028D-13	4(7)	2.4403D+11	3.5894D+10
60.255	0(6)	9.951D-13	1(3)*	2.7943D+11	7.7698D+10
60.286	1(8)	1.456D-12	0(1)*	3.0440D+11	1.3488D+11
60.359	2(13)*	9.366D-13	2(6)	1.3458D+11	1.6962D+10
60.360	4(14)*	4.635D-13	3(10)	2.2529D+11	2.3526D+10
60.452	1(6)*	1.709D-12	0(2)	4.0454D+11	2.7971D+11
60.478	4(11)	1.455D-12	4(2)*	1.0603D+11	1.6362D+10
60.606	1(9)	1.084D-12	1(3)*	4.4839D+11	2.1796D+11
60.713	2(15)*	4.209D-13	1(4)	2.3066D+11	2.2392D+10
60.713	2(25)	2.107D-12	2(9)*	1.0044D+11	2.1256D+10
60.748	3(14)	5.556D-13	2(8)*	9.6314D+11	5.1536D+11
60.775	3(5)	1.908D-12	2(4)*	1.6489D+11	5.1877D+10
60.841	2(12)	8.933D-13	2(5)*	1.0866D+11	1.0546D+10
60.878	3(12)*	1.242D-12	3(6)	1.0346D+11	1.3294D+10
60.903	4(3)	2.781D-12	3(2)*	1.9743D+11	1.0839D+11
60.929	3(1)	3.108D-12	2(1)*	2.7970D+11	2.4317D+11
60.937	4(4)	1.378D-12	3(2)*	4.1703D+11	2.3963D+11
60.961	5(1)*	2.235D-12	4(1)	3.7339D+11	3.1168D+11
61.064	3(8)*	1.820D-12	2(6)	3.0498D+11	1.6930D+11
61.081	2(23)	4.294D-13	1(7)*	1.0939D+12	5.1389D+11
61.084	4(5)	5.946D-13	3(3)*	3.2059D+11	6.1114D+10
61.114	4(3)*	2.392D-12	3(2)	3.3437D+11	2.6746D+11
61.191	2(3)*	3.798D-12	1(1)	2.2997D+11	2.0086D+11
61.194	4(15)*	4.957D-13	3(10)	5.8740D+11	1.7105D+11
61.246	1(17)	1.935D-12	0(3)*	1.4440D+11	4.0350D+10
61.269	2(11)	1.260D-12	3(2)*	8.9344D+10	1.0054D+10
61.459	0(6)	9.951D-13	1(4)*	4.0477D+11	1.6304D+11
61.484	1(9)*	1.170D-12	0(3)	2.8746D+11	9.6655D+10
61.538	3(10)*	4.464D-13	2(8)	2.7128D+11	3.2850D+10
61.611	2(13)	6.111D-13	1(4)*	5.5327D+11	1.8707D+11
61.623	3(6)	1.133D-12	3(2)*	1.1046D+11	1.3831D+10
61.642	2(16)	4.511D-13	1(5)*	1.4922D+11	1.0044D+10
61.652	1(27)*	4.277D-13	1(13)	2.4554D+11	2.5788D+10
61.754	4(10)	1.842D-12	3(5)*	3.0716D+11	1.7377D+11
61.795	4(7)*	1.522D-12	4(4)	9.0334D+10	1.2420D+10
61.939	3(22)*	4.973D-13	2(17)	2.0098D+11	2.0087D+10

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
61.988	1(17)	1.935D-12	1(8)*	1.3457D+11	3.5046D+10
62.097	3(8)	8.358D-13	2(5)*	5.3705D+11	2.4108D+11
62.099	3(1)*	4.479D-12	2(1)	2.2303D+11	2.2279D+11
62.174	1(17)*	1.031D-12	1(9)	1.3514D+11	1.8825D+10
62.217	1(16)	4.735D-13	1(7)*	4.7113D+11	1.0509D+11
62.238	3(15)	2.246D-12	2(9)*	2.0276D+11	9.2343D+10
62.319	3(9)	4.722D-13	2(6)*	2.0575D+11	1.9987D+10
62.337	2(14)*	1.715D-12	2(7)	1.4872D+11	3.7938D+10
62.501	4(13)*	5.826D-13	4(7)	1.4673D+11	1.2544D+10
62.603	3(11)*	5.118D-13	2(10)	2.2013D+11	2.4799D+10
62.624	2(9)	2.333D-12	2(4)*	1.3377D+11	4.1755D+10
62.637	1(17)*	1.031D-12	2(12)	2.6676D+11	7.3352D+10
62.693	4(11)	1.455D-12	3(6)*	3.8751D+11	2.1853D+11
62.727	2(25)	2.107D-12	1(8)*	1.3230D+11	3.6880D+10
62.735	5(7)*	7.081D-13	4(8)	2.0405D+11	2.9481D+10
62.792	0(5)*	1.662D-12	1(4)	1.0059D+11	1.6812D+10
62.829	3(9)*	1.785D-12	2(7)	1.3780D+11	3.3894D+10
62.859	2(23)*	5.444D-13	2(15)	3.7656D+11	7.7198D+10
62.875	0(6)*	1.112D-12	1(8)	2.5000D+11	6.9515D+10
63.100	2(7)*	7.519D-12	2(2)	1.2879D+11	1.2471D+11
63.252	3(5)	1.908D-12	3(2)*	7.9932D+10	1.2191D+10
63.310	1(21)*	5.180D-13	1(10)	5.1070D+11	1.3509D+11
63.448	4(6)*	1.122D-12	3(5)	1.8233D+11	3.7312D+10
63.595	0(8)	2.234D-12	1(6)*	1.7465D+11	6.8142D+10
63.684	3(6)*	1.228D-12	2(5)	4.9431D+11	2.9996D+11
63.696	0(5)*	1.662D-12	1(5)	1.3512D+11	3.0334D+10
63.709	2(4)	3.300D-12	1(1)*	1.7337D+11	9.9191D+10
63.773	2(10)*	1.335D-12	2(5)	1.0958D+11	1.6030D+10
64.012	1(13)*	1.428D-12	1(5)	1.1068D+11	1.7492D+10
64.031	5(2)*	1.674D-12	4(4)	1.6039D+11	4.3056D+10
64.069	5(2)*	1.674D-12	4(3)	2.1410D+11	7.6720D+10
64.140	4(4)*	2.109D-12	3(4)	1.4895D+11	4.6787D+10
64.586	1(16)*	9.692D-13	1(9)	1.4163D+11	1.9440D+10
64.873	2(24)*	5.570D-13	2(15)	2.9243D+11	4.7632D+10
64.883	2(18)	9.472D-13	1(6)*	1.4560D+11	2.0079D+10
64.974	2(24)*	5.570D-13	1(10)	6.7278D+11	2.5211D+11

Continued..

Table 12 (contd)

λ	Upper	τ	Lower	A	A_{br}
64.990	1(16)*	9.692D-13	0(6)	1.2751D+11	1.5759D+10
65.016	3(18)*	6.469D-13	2(15)	5.9159D+11	2.2641D+11
65.176	4(6)*	1.122D-12	3(6)	2.2199D+11	5.5312D+10
65.597	4(7)*	1.522D-12	3(8)	2.3694D+11	8.5445D+10
66.809	3(13)*	1.231D-12	2(13)	2.4133D+11	7.1699D+10
66.961	4(6)	2.337D-12	3(4)*	2.2159D+11	1.1477D+11
71.844	2(3)	1.461D-11	2(1)*	3.2605D+10	1.5536D+10
72.442	0(12)	3.869D-12	1(8)*	1.3338D+11	6.8830D+10
76.086	2(2)*	5.974D-11	2(1)	1.5597D+10	1.4532D+10
81.148	1(2)	1.419D-11	1(1)*	2.7487D+10	1.0724D+10
109.191	2(24)	4.308D-12	3(7)*	6.1667D+10	1.6384D+10
112.239	0(12)	3.869D-12	1(10)*	1.0267D+11	4.0784D+10
115.051	1(2)	1.419D-11	2(2)*	3.2405D+10	1.4904D+10
121.873	5(1)	4.353D-11	4(1)*	2.2975D+10	2.2975D+10

Table 13Energy levels (cm^{-1}) and lifetimes (s) in Pt^{45+} (As-like).

Occ	$J(\text{No})^P$	E	τ
4622100	3/2(1)*	0	0.000D+00
4621200	3/2(2)*	964054	5.920D-08
4621200	5/2(1)*	1009331	2.753D-07
4621200	1/2(1)*	1071364	9.117D-08
4622010	3/2(1)	1359007	5.372D-11
4622001	5/2(1)	1626102	4.959D-12
4612200	5/2(2)	1853914	3.448D-12
4612200	1/2(1)	1973999	2.513D-12
4612200	3/2(2)	1989282	1.312D-12
4620300	3/2(3)*	2043880	2.942D-08
4621110	5/2(3)	2317881	8.351D-11
4621110	3/2(3)	2322444	1.082D-11
4621110	1/2(2)	2323708	7.817D-11
4621110	7/2(1)	2366399	1.652D-09
4621110	5/2(4)	2492336	4.512D-13
4621110	3/2(4)	2505987	3.484D-13
4621110	1/2(3)	2512804	4.195D-13
4621101	7/2(2)	2535965	1.271D-09
4621101	3/2(5)	2571231	7.669D-12
4621101	9/2(1)	2585284	2.285D-06
4621101	5/2(5)	2592737	6.011D-12
4621101	7/2(3)	2704734	1.627D-12
4621101	5/2(6)	2705030	9.662D-13
4621101	3/2(6)	2725388	2.383D-12
4621101	1/2(4)	2736163	1.845D-12
4611300	3/2(7)	2882084	1.266D-12
4611300	5/2(7)	2947219	1.291D-12
4611300	1/2(5)	3036518	6.430D-13
4611300	3/2(8)	3043345	6.779D-13
4612110	5/2(2)*	3179306	2.070D-11
4612110	3/2(4)*	3183769	1.239D-11
4612110	1/2(2)*	3185717	2.440D-11
4612110	7/2(1)*	3216389	2.801D-11
4612110	3/2(5)*	3293918	2.524D-12
4612110	5/2(3)*	3313326	1.429D-12

Continued...

Table 13 (contd)

Occ	J(No) ^P	E	τ
4612110	1/2(3)*	3363030	1.314D-12
4612101	9/2(1)*	3392095	2.867D-11
4620210	3/2(9)	3449007	4.345D-13
4620210	1/2(6)	3455537	4.736D-13
4620210	5/2(8)	3458033	5.168D-13
4612101	5/2(4)*	3469847	2.833D-12
4620210	7/2(4)	3474035	5.711D-13
4612101	3/2(6)*	3507741	3.951D-12
4612101	7/2(2)*	3514836	2.506D-12
4612101	7/2(3)*	3523282	1.559D-12
4620210	3/2(10)	3549158	5.463D-13
4620201	7/2(5)	3567080	1.848D-11
4620201	9/2(2)	3575686	4.669D-08
4620201	1/2(7)	3597363	1.353D-11
4612101	1/2(4)*	3611356	2.355D-12
4612101	5/2(5)*	3611916	1.088D-12
4612101	3/2(7)*	3644658	1.173D-12
4620201	5/2(9)	3694044	3.446D-10
4620201	3/2(11)	3763200	1.087D-12
4621020	5/2(6)*	3776418	1.268D-12
4620201	5/2(10)	3799365	7.963D-13
4621020	1/2(5)*	3859324	4.929D-13
4621020	3/2(8)*	3897147	2.933D-13
4602300	3/2(9)*	3931917	6.991D-13
4621011	7/2(4)*	3947243	3.452D-12
4621011	5/2(7)*	3955730	3.255D-12
4621011	1/2(6)*	3967029	4.902D-12
4621011	3/2(10)*	3968205	1.819D-12
4621011	9/2(2)*	3988813	3.387D-12
4610400	1/2(8)	4071798	4.885D-13
4621011	5/2(8)*	4112796	4.031D-13
4621011	7/2(5)*	4133885	5.739D-13
4621011	3/2(12)*	4140857	3.586D-13
4611210	5/2(9)*	4141591	1.137D-12
4611210	3/2(11)*	4141871	1.114D-12
4611210	1/2(7)*	4150383	1.300D-12

Continued...

Table 13 (contd)

Occ	J(No) ^P	E	τ
4611210	7/2(6)*	4181099	1.204D-12
4621002	7/2(7)*	4204691	2.224D-12
4621002	9/2(3)*	4207855	3.529D-12
4611210	9/2(4)*	4237625	2.054D-12
4611210	3/2(13)*	4259482	1.254D-12
4621002	5/2(10)*	4275758	1.768D-12
4621002	3/2(14)*	4277090	1.245D-12
4611210	7/2(8)*	4285432	7.106D-13
4611201	9/2(5)*	4289700	4.976D-12
4611210	1/2(8)*	4292525	1.567D-12
4611210	5/2(11)*	4308102	4.907D-13
4611210	3/2(15)*	4312259	5.837D-13
4611210	5/2(12)*	4327403	8.150D-13
4611210	7/2(9)*	4335406	5.341D-13
4611210	1/2(9)*	4343409	1.089D-12
4611210	3/2(16)*	4347603	4.687D-13
4611210	5/2(13)*	4371218	6.546D-13
4611201	7/2(10)*	4376614	8.975D-13
4611201	11/2(1)*	4383921	6.206D-12
4611210	1/2(12)*	4440957	4.219D-13
4611201	5/2(15)*	4441667	5.455D-13
4611201	5/2(14)*	4445444	1.004D-12
4611201	9/2(6)*	4445943	1.660D-12
4611201	1/2(10)*	4446887	8.807D-13
4611210	3/2(17)*	4451617	4.434D-13
4611210	1/2(11)*	4455043	4.302D-13
4611210	3/2(19)*	4477470	3.851D-13
4611201	3/2(18)*	4496917	6.703D-13
4611201	7/2(11)*	4514342	2.088D-12
4611201	1/2(13)*	4535023	6.087D-13
4611201	5/2(16)*	4538683	6.099D-13
4611201	5/2(17)*	4540026	8.030D-13
4612020	3/2(12)	4548214	9.701D-12
4611201	7/2(12)*	4549002	9.371D-13
4611201	9/2(7)*	4553529	1.142D-12
4611201	3/2(20)*	4568038	7.857D-13

Continued...

Table 13 (contd)

Occ	J(No) ^P	E	τ
4611201	7/2(14)*	4582715	8.021D-13
4611201	7/2(13)*	4585919	7.828D-13
4612020	5/2(11)	4594243	9.408D-12
4611201	5/2(18)*	4605793	1.875D-12
4611201	5/2(19)*	4607829	7.369D-13
4611201	3/2(21)*	4612448	1.134D-12
4612020	1/2(9)	4653972	7.790D-12
4611201	3/2(22)*	4655670	5.922D-13
4611201	1/2(14)*	4659755	6.454D-13
4611201	5/2(20)*	4671899	5.557D-13
4611201	3/2(23)*	4687132	5.411D-13
4612011	7/2(6)	4813206	2.871D-12
4612011	5/2(12)	4831572	2.779D-12
4612011	3/2(13)	4851710	2.492D-12
4612011	9/2(3)	4874323	2.099D-12
4612011	7/2(7)	4899288	2.423D-12
4612011	5/2(13)	4904840	2.470D-12
4612011	3/2(14)	4908841	2.963D-12
4612011	1/2(10)	4939209	2.870D-12
4620120	3/2(24)*	4960889	2.149D-13
4620120	1/2(15)*	4962524	2.304D-13
4620120	3/2(25)*	4964509	2.353D-13
4620120	7/2(15)*	4967735	2.567D-13
4620120	5/2(21)*	4971799	2.334D-13
4620111	9/2(8)*	5004287	4.644D-13
4620111	7/2(16)*	5016414	4.369D-13
4601400	1/2(16)*	5022639	3.656D-13
4620111	5/2(22)*	5041772	4.881D-13
4620111	3/2(26)*	5042013	4.558D-13
4620111	1/2(17)*	5042881	4.230D-13
4620111	5/2(23)*	5054808	5.013D-13
4620111	11/2(2)*	5060326	8.114D-13
4620111	7/2(17)*	5074923	5.815D-13
4612002	9/2(4)	5083763	1.742D-12
4612002	5/2(14)	5148687	1.504D-12
4612002	7/2(8)	5152717	1.847D-12

Continued...

Table 13 (contd)

Occ	J(No) ^P	E	τ
4620102	5/2(24)*	5157320	9.634D-13
4620111	7/2(18)*	5158608	4.044D-13
4620111	3/2(27)*	5181966	3.712D-13
4602210	3/2(15)	5183656	1.266D-12
4620111	5/2(25)*	5183917	4.238D-13
4612002	3/2(16)	5187786	1.702D-12
4620111	9/2(9)*	5192606	4.439D-13
4620102	11/2(3)*	5196466	2.188D-12
4602210	7/2(9)	5197790	9.070D-13
4620111	3/2(28)*	5197895	2.978D-13
4620102	7/2(19)*	5214077	1.912D-12
4620111	1/2(18)*	5215137	4.178D-13
4620111	5/2(26)*	5224276	4.376D-13
4602210	5/2(15)	5234818	9.091D-13
4612002	1/2(11)	5239675	1.286D-12
4620102	9/2(10)*	5243055	9.837D-13
4602210	1/2(12)	5261894	9.270D-13
4602210	3/2(17)	5291469	9.424D-13
4620102	1/2(19)*	5315214	6.401D-13
4610310	1/2(20)*	5331747	3.699D-13
4610310	7/2(20)*	5338851	5.838D-13
4620102	3/2(29)*	5347109	1.714D-12
4602201	9/2(5)	5368716	1.248D-12
4610310	3/2(30)*	5375049	3.564D-13
4610310	5/2(28)*	5375560	3.646D-13
4620102	5/2(27)*	5378790	9.953D-13
4610310	7/2(21)*	5412102	4.114D-13
4620102	3/2(31)*	5416194	5.393D-13
4602201	7/2(10)	5416361	9.770D-13
4610301	9/2(11)*	5439612	9.136D-13
4610310	5/2(29)*	5477995	3.236D-13
4602201	1/2(14)	5484510	8.461D-13
4610310	3/2(32)*	5489073	3.268D-13
4602201	5/2(18)	5491427	8.604D-13
4602201	5/2(17)	5513604	1.246D-12
4610310	1/2(21)*	5519979	2.363D-13

Continued...

Table 13 (contd)

Occ	J(No) ^P	E	τ
4611120	3/2(18)	5520689	1.226D-12
4611120	1/2(13)	5523734	1.394D-12
4610301	7/2(22)*	5536682	8.449D-13
4611120	5/2(16)	5540351	1.284D-12
4611120	7/2(11)	5562699	1.571D-12
4610301	5/2(30)*	5566863	4.922D-13
4602201	3/2(20)	5572798	7.220D-13
4611120	3/2(19)	5595284	6.830D-13
4610301	3/2(33)*	5595442	6.241D-13
4610301	7/2(23)*	5614324	5.278D-13
4611120	9/2(6)	5615878	1.895D-12
4610301	5/2(31)*	5651706	5.516D-13
4611111	7/2(12)	5661265	4.136D-12
4611111	5/2(19)	5661497	2.897D-12
4611111	9/2(7)	5664801	3.403D-12
4611120	3/2(21)	5674623	6.243D-13
4611120	5/2(21)	5680171	6.277D-13
4611120	1/2(15)	5683917	3.186D-13
4611120	3/2(22)	5684283	3.495D-13
4611120	5/2(20)	5688801	6.299D-13
4611120	5/2(22)	5697998	3.971D-13

Table 14Transitions in Pt⁴⁵⁺ (As-like).

λ	Upper	τ	Lower	A	A_{br}
37.105	7/2(12)*	9.374D-13	5/2(2)	1.2951D+11	1.5724D+10
37.680	5/2(21)*	2.334D-13	5/2(3)	1.0220D+12	2.4381D+11
37.745	5/2(21)*	2.334D-13	3/2(3)	2.6789D+11	1.6752D+10
37.836	3/2(24)*	2.149D-13	5/2(3)	7.7971D+11	1.3066D+11
37.878	1/2(15)*	2.304D-13	3/2(3)	1.2533D+12	3.6191D+11
37.896	1/2(15)*	2.304D-13	1/2(2)	1.1129D+12	2.8539D+11
37.901	3/2(21)*	1.135D-12	1/2(1)	1.7250D+11	3.3773D+10
37.901	3/2(24)*	2.149D-13	3/2(3)	9.1253D+11	1.7897D+11
37.919	3/2(24)*	2.149D-13	1/2(2)	4.3184D+11	4.0080D+10
38.297	11/2(3)*	2.188D-12	9/2(1)	1.1831D+11	3.0629D+10
38.326	3/2(10)*	1.819D-12	3/2(1)	1.7432D+11	5.5286D+10
38.382	5/2(21)*	2.334D-13	7/2(1)	4.3914D+11	4.5014D+10
38.442	7/2(15)*	2.567D-13	7/2(1)	1.8584D+12	8.8671D+11
38.569	5/2(5)	6.011D-12	3/2(1)*	5.5209D+10	1.8323D+10
38.774	1/2(19)*	6.401D-13	1/2(4)	2.8792D+11	5.3063D+10
38.781	7/2(7)*	2.225D-12	5/2(1)	1.8208D+11	7.3759D+10
38.866	3/2(9)*	6.991D-13	3/2(1)	3.2366D+11	7.3240D+10
39.097	7/2(5)	1.849D-11	5/2(1)*	5.4095D+10	5.4093D+10
39.139	7/2(6)*	1.204D-12	5/2(1)	2.9311D+11	1.0344D+11
39.225	5/2(16)*	6.100D-13	3/2(2)	4.6927D+11	1.3433D+11
39.281	1/2(13)*	6.088D-13	3/2(2)	7.8915D+11	3.7916D+11
39.386	7/2(17)*	5.815D-13	7/2(2)	2.2949D+11	3.0623D+10
39.396	9/2(10)*	9.837D-13	7/2(3)	1.5170D+11	2.2636D+10
39.399	3/2(8)*	2.933D-13	3/2(1)	3.3111D+12	3.2152D+12
39.627	5/2(30)*	4.922D-13	3/2(8)	2.7923D+11	3.8375D+10
39.640	7/2(10)*	8.976D-13	5/2(2)	2.2729D+11	4.6369D+10
39.694	5/2(26)*	4.376D-13	5/2(6)	2.9159D+11	3.7211D+10
39.725	5/2(13)*	6.547D-13	5/2(2)	1.7279D+11	1.9546D+10
39.749	3/2(11)*	1.114D-12	5/2(1)	1.5764D+11	2.7694D+10
39.754	5/2(9)*	1.137D-12	5/2(1)	4.0581D+11	1.8726D+11
39.765	3/2(12)*	3.586D-13	5/2(1)	2.5166D+12	2.2715D+12
39.774	5/2(22)	3.971D-13	3/2(4)*	2.7031D+11	2.9018D+10
39.796	1/2(3)	4.195D-13	3/2(1)*	2.3724D+12	2.3608D+12
39.849	5/2(20)	6.300D-13	5/2(2)*	3.5028D+11	7.7301D+10
39.876	7/2(5)*	5.739D-13	5/2(1)	1.4822D+12	1.2607D+12

Continued..

Table 14 (contd)

λ	Upper	τ	Lower	A	A_{br}
39.878	3/2(18)*	6.703D-13	3/2(2)	3.3001D+11	7.3006D+10
39.904	3/2(4)	3.484D-13	3/2(1)*	2.8690D+12	2.8676D+12
39.907	5/2(22)*	4.881D-13	7/2(2)	2.0098D+12	1.9714D+12
39.920	5/2(20)	6.300D-13	3/2(4)*	2.1891D+11	3.0190D+10
39.921	3/2(22)	3.495D-13	5/2(2)*	1.6506D+12	9.5213D+11
39.945	3/2(19)*	3.851D-13	1/2(1)	3.4867D+11	4.6820D+10
39.986	5/2(21)	6.277D-13	5/2(2)*	6.3740D+11	2.5502D+11
39.995	1/2(5)*	4.929D-13	3/2(1)	1.9963D+12	1.9643D+12
39.998	1/2(15)	3.186D-13	3/2(4)*	2.4134D+12	1.8559D+12
40.018	5/2(26)*	4.376D-13	3/2(6)	1.0010D+12	4.3852D+11
40.023	3/2(22)	3.495D-13	1/2(2)*	8.9917D+11	2.8253D+11
40.029	1/2(15)	3.186D-13	1/2(2)*	5.6216D+11	1.0070D+11
40.058	5/2(21)	6.277D-13	3/2(4)*	3.0210D+11	5.7285D+10
40.075	3/2(21)	6.243D-13	5/2(2)*	1.9996D+11	2.4963D+10
40.097	5/2(8)	5.169D-13	3/2(2)*	7.9385D+11	3.2572D+11
40.101	3/2(16)*	4.687D-13	5/2(2)	1.2234D+12	7.0152D+11
40.105	5/2(28)*	3.646D-13	3/2(7)	5.7644D+11	1.2115D+11
40.113	3/2(30)*	3.564D-13	3/2(7)	7.9505D+11	2.2526D+11
40.114	3/2(28)*	2.978D-13	5/2(6)	2.0852D+12	1.2948D+12
40.123	5/2(4)	4.512D-13	3/2(1)*	2.2080D+12	2.1998D+12
40.137	1/2(6)	4.736D-13	3/2(2)*	2.0769D+12	2.0430D+12
40.165	1/2(18)*	4.178D-13	3/2(6)	1.9796D+11	1.6374D+10
40.190	3/2(19)*	3.851D-13	3/2(2)	1.1248D+12	4.8724D+11
40.195	9/2(9)*	4.439D-13	7/2(3)	1.1845D+12	6.2281D+11
40.214	5/2(8)*	4.031D-13	5/2(1)	2.2549D+12	2.0496D+12
40.242	3/2(9)	4.346D-13	3/2(2)*	1.5977D+12	1.1092D+12
40.265	5/2(23)*	5.013D-13	3/2(5)	7.1589D+11	2.5694D+11
40.266	1/2(21)*	2.363D-13	1/2(5)	1.3176D+12	4.1029D+11
40.287	5/2(19)	2.897D-12	5/2(2)*	1.3280D+11	5.1101D+10
40.287	7/2(17)*	5.815D-13	5/2(5)	1.2265D+12	8.7470D+11
40.296	5/2(22)	3.971D-13	7/2(1)*	1.9833D+12	1.5621D+12
40.298	7/2(9)*	5.341D-13	5/2(2)	6.8988D+11	2.5422D+11
40.306	1/2(11)*	4.302D-13	1/2(1)	6.1204D+11	1.6116D+11
40.315	7/2(16)*	4.369D-13	7/2(2)	1.3453D+12	7.9064D+11
40.331	5/2(21)*	2.334D-13	5/2(4)	7.9546D+11	1.4770D+11
40.336	5/2(25)*	4.238D-13	7/2(3)	3.8963D+11	6.4335D+10

Continued...

Table 14 (contd)

λ	Upper	τ	Lower	A	A_{br}
40.339	1/2(18)*	4.178D-13	1/2(4)	1.4310D+12	8.5565D+11
40.341	5/2(25)*	4.238D-13	5/2(6)	9.8222D+11	4.0885D+11
40.358	3/2(10)	5.463D-13	1/2(1)*	1.7973D+12	1.7647D+12
40.361	3/2(17)*	4.434D-13	1/2(1)	1.3047D+12	7.5480D+11
40.372	3/2(27)*	3.712D-13	5/2(6)	2.0492D+11	1.5588D+10
40.398	7/2(15)*	2.567D-13	5/2(4)	1.7850D+12	8.1801D+11
40.403	11/2(2)*	8.114D-13	9/2(1)	1.2302D+12	1.2279D+12
40.429	5/2(12)*	8.151D-13	5/2(2)	2.1123D+11	3.6370D+10
40.439	1/2(10)*	8.807D-13	1/2(1)	2.0987D+11	3.8791D+10
40.450	3/2(25)*	2.353D-13	5/2(4)	2.2578D+12	1.1995D+12
40.459	1/2(17)*	4.230D-13	3/2(5)	2.1487D+12	1.9530D+12
40.473	3/2(26)*	4.558D-13	3/2(5)	1.5015D+12	1.0276D+12
40.513	9/2(8)*	4.644D-13	7/2(2)	5.9248D+11	1.6302D+11
40.536	1/2(12)*	4.219D-13	1/2(1)	8.4048D+11	2.9804D+11
40.555	5/2(21)*	2.334D-13	3/2(4)	1.7036D+12	6.7744D+11
40.555	1/2(11)*	4.302D-13	3/2(2)	8.9148D+11	3.4192D+11
40.570	7/2(21)*	4.115D-13	5/2(7)	8.0309D+11	2.6538D+11
40.573	7/2(4)	5.711D-13	5/2(1)*	1.7509D+12	1.7509D+12
40.612	3/2(17)*	4.434D-13	3/2(2)	2.9868D+11	3.9558D+10
40.616	5/2(23)*	5.013D-13	5/2(5)	9.6839D+11	4.7016D+11
40.675	3/2(25)*	2.353D-13	3/2(4)	1.3305D+12	4.1652D+11
40.678	3/2(15)*	5.837D-13	5/2(2)	7.4601D+11	3.2485D+11
40.690	1/2(10)*	8.807D-13	3/2(2)	3.2088D+11	9.0685D+10
40.707	3/2(27)*	3.712D-13	3/2(6)	8.2511D+11	2.5273D+11
40.714	5/2(14)*	1.004D-12	3/2(2)	2.3839D+11	5.7057D+10
40.735	3/2(24)*	2.149D-13	3/2(4)	1.5195D+12	4.9620D+11
40.747	5/2(11)*	4.908D-13	5/2(2)	1.5809D+12	1.2265D+12
40.752	7/2(18)*	4.044D-13	7/2(3)	1.0376D+12	4.3543D+11
40.757	7/2(18)*	4.044D-13	5/2(6)	5.5328D+11	1.2381D+11
40.773	5/2(24)*	9.634D-13	7/2(3)	1.4665D+11	2.0721D+10
40.774	3/2(32)*	3.268D-13	1/2(5)	4.9347D+11	7.9580D+10
40.777	5/2(15)*	5.455D-13	3/2(2)	8.8850D+11	4.3066D+11
40.778	5/2(24)*	9.634D-13	5/2(6)	2.3418D+11	5.2837D+10
40.788	3/2(25)*	2.353D-13	1/2(3)	5.9991D+11	8.4679D+10
40.788	1/2(12)*	4.219D-13	3/2(2)	4.5730D+11	8.8229D+10
40.821	1/2(15)*	2.304D-13	1/2(3)	1.7862D+12	7.3514D+11

Continued...

Table 14 (contd)

λ	Upper	τ	Lower	A	A_{br}
40.822	1/2(20)*	3.699D-13	3/2(7)	1.4126D+12	7.3811D+11
40.828	3/2(26)*	4.558D-13	5/2(5)	4.9742D+11	1.1279D+11
40.838	5/2(8)	5.169D-13	5/2(1)*	1.1405D+12	6.7231D+11
40.848	3/2(24)*	2.149D-13	1/2(3)	9.4638D+11	1.9249D+11
40.886	3/2(27)*	3.712D-13	1/2(4)	1.0023D+12	3.7293D+11
40.888	3/2(32)*	3.268D-13	3/2(8)	3.4973D+11	3.9970D+10
40.989	3/2(9)	4.346D-13	5/2(1)*	5.6507D+11	1.3875D+11
41.074	5/2(29)*	3.236D-13	3/2(8)	8.8430D+11	2.5309D+11
41.099	1/2(19)*	6.401D-13	3/2(7)	1.9196D+11	2.3587D+10
41.120	5/2(24)*	9.634D-13	3/2(6)	3.3447D+11	1.0778D+11
41.127	7/2(8)*	7.106D-13	5/2(2)	8.0468D+11	4.6015D+11
41.133	7/2(16)*	4.369D-13	9/2(1)	5.1700D+11	1.1677D+11
41.180	5/2(28)*	3.646D-13	5/2(7)	6.2153D+11	1.4085D+11
41.189	3/2(30)*	3.564D-13	5/2(7)	4.4277D+11	6.9863D+10
41.260	7/2(16)*	4.369D-13	5/2(5)	2.9885D+11	3.9017D+10
41.339	9/2(8)*	4.644D-13	9/2(1)	1.5501D+12	1.1158D+12
41.367	5/2(6)*	1.268D-12	3/2(1)	7.4713D+11	7.0802D+11
41.391	3/2(19)	6.830D-13	5/2(2)*	4.0908D+11	1.1430D+11
41.468	3/2(19)	6.830D-13	3/2(4)*	4.1011D+11	1.1488D+11
41.501	3/2(19)	6.830D-13	1/2(2)*	1.9299D+11	2.5441D+10
41.570	3/2(13)*	1.254D-12	5/2(2)	9.7876D+10	1.2010D+10
41.676	9/2(6)	1.896D-12	7/2(1)*	4.3165D+11	3.5321D+11
41.756	5/2(20)	6.300D-13	3/2(5)*	1.6599D+11	1.7358D+10
41.780	3/2(20)	7.221D-13	5/2(2)*	1.5367D+11	1.7052D+10
41.812	7/2(20)*	5.838D-13	5/2(7)	5.5294D+11	1.7850D+11
41.858	3/2(20)	7.221D-13	3/2(4)*	1.9328D+11	2.6976D+10
41.907	5/2(21)	6.277D-13	3/2(5)*	1.6569D+11	1.7233D+10
41.957	7/2(11)	1.571D-12	5/2(2)*	5.2321D+11	4.3019D+11
42.004	3/2(21)	6.243D-13	3/2(5)*	2.0807D+11	2.7028D+10
42.097	5/2(20)	6.300D-13	5/2(3)*	2.2805D+11	3.2766D+10
42.354	5/2(16)	1.284D-12	5/2(2)*	1.9834D+11	5.0522D+10
42.434	5/2(16)	1.284D-12	3/2(4)*	4.5440D+11	2.6518D+11
42.771	1/2(13)	1.395D-12	1/2(2)*	5.7311D+11	4.5804D+11
42.791	3/2(18)	1.226D-12	3/2(4)*	4.0331D+11	1.9947D+11
42.827	3/2(18)	1.226D-12	1/2(2)*	3.2266D+11	1.2767D+11
42.887	3/2(30)*	3.564D-13	3/2(8)	2.7113D+11	2.6197D+10

Continued...

Table 14 (contd)

λ	Upper	τ	Lower	A	A_{br}
43.058	3/2(3)	1.082D-11	3/2(1)*	7.3347D+10	5.8229D+10
43.260	3/2(21)	6.243D-13	1/2(3)*	2.4185D+11	3.6516D+10
43.699	1/2(20)*	3.699D-13	3/2(8)	1.9537D+11	1.4118D+10
44.000	9/2(7)	3.404D-12	9/2(1)*	2.1060D+11	1.5095D+11
44.069	7/2(12)	4.137D-12	9/2(1)*	9.5688D+10	3.7877D+10
46.717	1/2(16)*	3.656D-13	3/2(7)	2.5801D+11	2.4337D+10
47.970	5/2(31)*	5.518D-13	7/2(5)	1.9945D+11	2.1949D+10
48.120	1/2(12)	9.273D-13	3/2(4)*	1.5693D+11	2.2837D+10
48.252	1/2(5)	6.430D-13	3/2(2)*	6.4629D+11	2.6859D+11
48.287	1/2(21)*	2.363D-13	3/2(9)	8.6777D+11	1.7797D+11
48.439	1/2(21)*	2.363D-13	1/2(6)	1.0773D+12	2.7432D+11
48.475	3/2(22)*	5.923D-13	5/2(5)	4.1162D+11	1.0035D+11
48.650	5/2(15)	9.094D-13	5/2(2)*	2.9448D+11	7.8858D+10
48.701	5/2(13)*	6.547D-13	5/2(3)	1.8916D+11	2.3424D+10
48.782	7/2(13)*	7.829D-13	7/2(2)	1.9336D+11	2.9273D+10
48.846	7/2(23)*	5.279D-13	7/2(5)	3.0706D+11	4.9772D+10
48.868	5/2(16)*	6.100D-13	5/2(4)	2.1045D+11	2.7019D+10
49.018	3/2(32)*	3.268D-13	3/2(9)	3.8045D+11	4.7303D+10
49.052	7/2(23)*	5.279D-13	9/2(2)	7.2199D+11	2.7518D+11
49.164	3/2(8)	6.779D-13	5/2(1)*	1.0888D+12	8.0366D+11
49.236	3/2(32)*	3.268D-13	5/2(8)	4.6639D+11	7.1086D+10
49.268	3/2(16)*	4.687D-13	5/2(3)	3.0971D+11	4.4959D+10
49.286	5/2(29)*	3.236D-13	3/2(9)	1.8784D+11	1.1419D+10
49.312	1/2(8)	4.886D-13	3/2(3)*	2.0348D+12	2.0228D+12
49.410	3/2(16)*	4.687D-13	1/2(2)	1.6609D+11	1.2929D+10
49.451	1/2(13)*	6.088D-13	1/2(3)	1.4288D+11	1.2429D+10
49.481	1/2(9)*	1.090D-12	3/2(3)	5.2546D+11	3.0088D+11
49.540	3/2(7)*	1.173D-12	5/2(1)	4.0493D+11	1.9240D+11
49.676	7/2(12)*	9.374D-13	7/2(2)	3.2136D+11	9.6812D+10
49.746	7/2(10)*	8.976D-13	7/2(1)	1.2397D+11	1.3794D+10
49.763	5/2(12)*	8.151D-13	5/2(3)	4.6649D+11	1.7738D+11
49.876	5/2(12)*	8.151D-13	3/2(3)	3.8260D+11	1.1931D+11
49.880	5/2(13)*	6.547D-13	7/2(1)	9.8684D+11	6.3754D+11
49.900	1/2(3)*	1.314D-12	3/2(1)	6.7757D+11	6.0326D+11
49.901	5/2(29)*	3.236D-13	7/2(4)	9.5080D+11	2.9258D+11
49.932	5/2(16)*	6.100D-13	7/2(2)	3.2143D+11	6.3027D+10

Continued...

Table 14 (contd)

λ	Upper	τ	Lower	A	A_{br}
49.984	7/2(13)*	7.829D-13	9/2(1)	9.0539D+11	6.4178D+11
50.003	3/2(15)	1.266D-12	3/2(4)*	1.8619D+11	4.3890D+10
50.005	5/2(30)*	4.922D-13	7/2(5)	8.6513D+11	3.6838D+11
50.048	3/2(33)*	6.243D-13	1/2(7)	3.8433D+11	9.2208D+10
50.141	3/2(15)*	5.837D-13	5/2(3)	1.4415D+11	1.2129D+10
50.228	3/2(18)*	6.703D-13	3/2(4)	2.2759D+11	3.4721D+10
50.243	5/2(17)	1.247D-12	7/2(3)*	3.0855D+11	1.1871D+11
50.256	3/2(15)*	5.837D-13	3/2(3)	2.0478D+11	2.4478D+10
50.269	3/2(2)	1.312D-12	3/2(1)*	7.0703D+11	6.5581D+11
50.288	3/2(15)*	5.837D-13	1/2(2)	3.3178D+11	6.4251D+10
50.349	1/2(16)*	3.656D-13	1/2(5)	4.6248D+11	7.8192D+10
50.357	5/2(5)*	1.089D-12	5/2(1)	2.8987D+11	9.1464D+10
50.451	3/2(23)*	5.412D-13	5/2(6)	3.6394D+11	7.1677D+10
50.469	7/2(9)	9.072D-13	7/2(1)*	1.6873D+11	2.5827D+10
50.523	1/2(16)*	3.656D-13	3/2(8)	1.9077D+12	1.3305D+12
50.533	3/2(10)*	1.819D-12	3/2(2)	1.0035D+11	1.8322D+10
50.552	3/2(17)	9.427D-13	5/2(3)*	4.4132D+11	1.8360D+11
50.588	1/2(14)	8.464D-13	3/2(6)*	4.3882D+11	1.6298D+11
50.591	9/2(5)	1.248D-12	9/2(1)*	1.7433D+11	3.7940D+10
50.659	1/2(1)	2.513D-12	3/2(1)*	3.6352D+11	3.3214D+11
50.710	3/2(8)	6.779D-13	1/2(1)*	3.3552D+11	7.6310D+10
50.723	3/2(19)*	3.851D-13	3/2(4)	5.4189D+11	1.1309D+11
50.740	1/2(21)*	2.363D-13	3/2(10)	7.6797D+11	1.3939D+11
50.759	1/2(8)*	1.567D-12	3/2(3)	4.7431D+11	3.5244D+11
50.772	7/2(22)*	8.450D-13	7/2(5)	1.2594D+11	1.3401D+10
50.787	7/2(9)*	5.341D-13	7/2(1)	4.1637D+11	9.2603D+10
50.807	9/2(7)*	1.142D-12	9/2(1)	5.5903D+11	3.5688D+11
50.825	7/2(8)*	7.106D-13	5/2(3)	1.9715D+11	2.7620D+10
50.827	5/2(16)*	6.100D-13	3/2(5)	3.4123D+11	7.1030D+10
50.835	5/2(20)*	5.557D-13	7/2(3)	8.2808D+11	3.8106D+11
50.887	1/2(5)	6.430D-13	1/2(1)*	8.6460D+11	4.8070D+11
50.899	3/2(19)*	3.851D-13	1/2(3)	1.8828D+11	1.3651D+10
50.994	7/2(22)*	8.450D-13	9/2(2)	5.9792D+11	3.0208D+11
50.997	3/2(20)	7.221D-13	5/2(5)*	2.3314D+11	3.9249D+10
51.039	3/2(17)*	4.434D-13	5/2(4)	4.7108D+11	9.8407D+10
51.041	3/2(14)*	1.245D-12	5/2(3)	2.6001D+11	8.4188D+10

Continued...

Table 14 (contd)

λ	Upper	τ	Lower	A	A_{br}
51.075	3/2(9)*	6.991D-13	1/2(1)	1.9135D+11	2.5598D+10
51.081	5/2(31)*	5.518D-13	5/2(9)	1.1480D+12	7.2709D+11
51.169	5/2(3)*	1.430D-12	3/2(1)	6.3801D+11	5.8191D+11
51.175	7/2(21)*	4.115D-13	5/2(8)	2.8027D+11	3.2321D+10
51.200	5/2(14)*	1.004D-12	5/2(4)	1.3342D+11	1.7871D+10
51.300	5/2(15)*	5.455D-13	5/2(4)	4.4716D+11	1.0908D+11
51.307	1/2(11)*	4.302D-13	3/2(4)	4.0255D+11	6.9718D+10
51.374	7/2(10)	9.774D-13	5/2(4)*	1.7026D+11	2.8331D+10
51.476	3/2(9)*	6.991D-13	3/2(2)	7.4884D+11	3.9204D+11
51.504	3/2(13)*	1.254D-12	5/2(3)	3.0334D+11	1.1535D+11
51.522	5/2(15)	9.094D-13	3/2(5)*	4.3867D+11	1.7499D+11
51.549	3/2(32)*	3.268D-13	3/2(10)	3.8198D+11	4.7683D+10
51.561	5/2(14)*	1.004D-12	3/2(4)	1.4967D+11	2.2492D+10
51.598	7/2(21)*	4.115D-13	7/2(4)	4.1225D+11	6.9929D+10
51.603	5/2(7)	1.291D-12	5/2(1)*	7.5134D+11	7.2889D+11
51.661	5/2(15)*	5.455D-13	3/2(4)	1.7243D+11	1.6220D+10
51.682	3/2(5)*	2.525D-12	3/2(1)	3.1802D+11	2.5534D+11
51.696	1/2(14)*	6.455D-13	3/2(6)	3.9244D+11	9.9422D+10
51.806	3/2(22)*	5.923D-13	3/2(6)	4.4791D+11	1.1883D+11
51.845	5/2(29)*	3.236D-13	3/2(10)	7.3992D+11	1.7719D+11
51.855	3/2(17)	9.427D-13	1/2(3)*	3.2519D+11	9.9684D+10
51.863	1/2(12)*	4.219D-13	1/2(3)	6.7150D+11	1.9024D+11
51.863	3/2(20)	7.221D-13	3/2(7)*	1.7532D+11	2.2195D+10
51.906	5/2(28)*	3.646D-13	3/2(9)	3.4825D+11	4.4220D+10
51.920	3/2(30)*	3.564D-13	3/2(9)	5.9154D+11	1.2470D+11
51.986	1/2(14)*	6.455D-13	1/2(4)	3.9681D+11	1.0165D+11
52.040	7/2(11)*	2.089D-12	5/2(5)	3.1017D+11	2.0098D+11
52.076	7/2(23)*	5.279D-13	5/2(9)	1.5416D+11	1.2546D+10
52.110	7/2(8)*	7.106D-13	7/2(1)	2.7132D+11	5.2311D+10
52.137	3/2(7)	1.266D-12	3/2(2)*	7.0342D+11	6.2621D+11
52.151	5/2(28)*	3.646D-13	5/2(8)	1.0099D+12	3.7185D+11
52.164	3/2(30)*	3.564D-13	5/2(8)	4.8297D+11	8.3126D+10
52.291	5/2(20)	6.300D-13	5/2(6)*	5.0559D+11	1.6104D+11
52.474	5/2(15)*	5.455D-13	7/2(2)	1.4886D+11	1.2088D+10
52.516	3/2(18)*	6.703D-13	5/2(5)	4.9388D+11	1.6351D+11
52.528	5/2(21)	6.277D-13	5/2(6)*	1.6591D+11	1.7277D+10

Continued...

Table 14 (contd)

λ	Upper	τ	Lower	A	A_{br}
52.554	5/2(19)*	7.369D-13	5/2(6)	1.5530D+11	1.7774D+10
52.589	7/2(10)	9.774D-13	7/2(2)*	2.1346D+11	4.4532D+10
52.593	3/2(33)*	6.243D-13	5/2(9)	4.4557D+11	1.2393D+11
52.602	5/2(18)*	1.877D-12	7/2(3)	9.8927D+10	1.8369D+10
52.663	1/2(12)	9.273D-13	1/2(3)*	3.8144D+11	1.3492D+11
52.681	3/2(21)	6.243D-13	5/2(6)*	5.3750D+11	1.8037D+11
52.710	7/2(3)*	1.560D-12	5/2(1)	2.8356D+11	1.2540D+11
52.824	7/2(10)	9.774D-13	7/2(3)*	1.6304D+11	2.5980D+10
52.917	3/2(15)	1.266D-12	3/2(5)*	2.4471D+11	7.5817D+10
52.946	7/2(2)*	2.508D-12	5/2(1)	7.9915D+10	1.6016D+10
52.952	5/2(31)*	5.518D-13	3/2(11)	2.6216D+11	3.7921D+10
53.058	3/2(19)*	3.851D-13	5/2(5)	1.6225D+11	1.0138D+10
53.065	7/2(9)	9.072D-13	5/2(3)*	6.3191D+11	3.6226D+11
53.114	1/2(20)*	3.699D-13	3/2(9)	3.7581D+11	5.2242D+10
53.145	3/2(6)*	3.958D-12	5/2(1)	8.6695D+10	2.9749D+10
53.168	7/2(20)*	5.838D-13	5/2(8)	1.5125D+11	1.3355D+10
53.180	5/2(18)*	1.877D-12	3/2(6)	3.0682D+11	1.7669D+11
53.205	5/2(18)	8.606D-13	5/2(5)*	3.9637D+11	1.3521D+11
53.249	7/2(14)*	8.021D-13	7/2(3)	5.0941D+11	2.0816D+11
53.287	1/2(11)	1.286D-12	1/2(3)*	1.6616D+11	3.5505D+10
53.297	3/2(21)*	1.135D-12	1/2(4)	4.3630D+11	2.1606D+11
53.299	1/2(20)*	3.699D-13	1/2(6)	4.7462D+11	8.3326D+10
53.315	1/2(10)*	8.807D-13	3/2(5)	4.1136D+11	1.4903D+11
53.356	5/2(14)*	1.004D-12	3/2(5)	1.7112D+11	2.9399D+10
53.386	1/2(14)	8.464D-13	1/2(4)*	1.4591D+11	1.8020D+10
53.441	9/2(4)*	2.055D-12	7/2(1)	3.0506D+11	1.9121D+11
53.506	5/2(17)	1.247D-12	3/2(7)*	2.7680D+11	9.5534D+10
53.561	3/2(31)*	5.393D-13	3/2(10)	1.6738D+11	1.5109D+10
53.625	7/2(20)*	5.838D-13	7/2(4)	3.8886D+11	8.8285D+10
53.650	9/2(11)*	9.136D-13	9/2(2)	1.0603D+12	1.0271D+12
53.671	7/2(6)*	1.204D-12	5/2(3)	3.6732D+11	1.6245D+11
53.677	3/2(20)*	7.858D-13	5/2(6)	1.7365D+11	2.3695D+10
53.744	9/2(6)*	1.660D-12	9/2(1)	2.9886D+11	1.4826D+11
53.940	5/2(2)	3.448D-12	3/2(1)*	2.6474D+11	2.4164D+11
54.089	9/2(7)*	1.142D-12	7/2(3)	2.8443D+11	9.2387D+10
54.188	9/2(5)	1.248D-12	7/2(3)*	4.6818D+11	2.7364D+11

Continued...

Table 14 (contd)

λ	Upper	τ	Lower	A	A_{br}
54.200	7/2(21)*	4.115D-13	7/2(5)	3.7811D+11	5.8826D+10
54.231	7/2(12)*	9.374D-13	5/2(6)	4.8748D+11	2.2276D+11
54.237	5/2(4)*	2.834D-12	5/2(1)	1.7027D+11	8.2160D+10
54.257	7/2(9)*	5.341D-13	5/2(4)	4.3763D+11	1.0230D+11
54.270	3/2(20)*	7.858D-13	3/2(6)	1.1688D+11	1.0734D+10
54.270	7/2(22)*	8.450D-13	5/2(9)	1.1796D+11	1.1756D+10
54.305	9/2(3)*	3.529D-12	7/2(1)	1.3921D+11	6.8393D+10
54.329	7/2(10)*	8.976D-13	7/2(2)	3.9916D+11	1.4301D+11
54.352	1/2(14)	8.464D-13	3/2(7)*	3.7373D+11	1.1822D+11
54.496	5/2(17)*	8.030D-13	5/2(6)	2.3156D+11	4.3060D+10
54.502	3/2(16)*	4.687D-13	1/2(3)	1.6421D+11	1.2638D+10
54.578	3/2(33)*	6.243D-13	3/2(11)	3.8134D+11	9.0779D+10
54.744	1/2(7)*	1.300D-12	1/2(2)	6.3610D+11	5.2597D+11
54.833	5/2(9)*	1.137D-12	5/2(3)	1.2722D+11	1.8403D+10
54.962	3/2(11)*	1.114D-12	3/2(3)	2.9580D+11	9.7505D+10
54.971	5/2(9)*	1.137D-12	3/2(3)	2.3950D+11	6.5223D+10
54.980	3/2(31)*	5.393D-13	1/2(7)	3.4032D+11	6.2458D+10
55.001	3/2(11)*	1.114D-12	1/2(2)	2.0484D+11	4.6759D+10
55.098	7/2(23)*	5.279D-13	5/2(10)	6.3475D+11	2.1270D+11
55.196	5/2(27)*	9.953D-13	7/2(5)	2.7062D+11	7.2892D+10
55.260	1/2(13)*	6.088D-13	3/2(6)	4.5472D+11	1.2589D+11
55.419	7/2(10)	9.774D-13	5/2(5)*	2.7609D+11	7.4502D+10
55.443	5/2(30)*	4.922D-13	3/2(11)	3.3862D+11	5.6438D+10
55.490	5/2(11)*	4.908D-13	3/2(4)	1.4683D+11	1.0581D+10
55.598	11/2(1)*	6.206D-12	9/2(1)	1.4209D+11	1.2530D+11
56.329	5/2(26)*	4.376D-13	3/2(9)	1.7362D+11	1.3192D+10
56.430	1/2(4)	1.845D-12	3/2(2)*	1.5462D+11	4.4118D+10
56.441	7/2(20)*	5.838D-13	7/2(5)	3.2391D+11	6.1254D+10
56.528	9/2(10)*	9.837D-13	7/2(4)	3.0173D+11	8.9558D+10
56.623	1/2(19)*	6.401D-13	3/2(10)	1.3892D+11	1.2354D+10
56.946	7/2(19)*	1.912D-12	5/2(8)	8.7223D+10	1.4548D+10
56.964	5/2(10)	7.963D-13	3/2(3)*	1.2210D+12	1.1871D+12
57.021	9/2(5)*	4.976D-12	7/2(2)	1.7705D+11	1.5598D+11
57.393	3/2(28)*	2.978D-13	1/2(6)	7.7651D+11	1.7955D+11
57.431	9/2(6)*	1.660D-12	7/2(3)	2.7981D+11	1.2996D+11
57.439	5/2(6)	9.662D-13	3/2(2)*	8.6223D+11	7.1831D+11

Continued...

Table 14 (contd)

λ	Upper	τ	Lower	A	A_{br}
57.560	7/2(22)*	8.450D-13	5/2(10)	3.0310D+11	7.7628D+10
57.640	5/2(25)*	4.238D-13	3/2(9)	3.8258D+11	6.2027D+10
57.705	3/2(27)*	3.712D-13	3/2(9)	1.9124D+11	1.3576D+10
57.739	1/2(11)	1.286D-12	3/2(6)*	1.1331D+11	1.6511D+10
57.815	1/2(11)*	4.302D-13	3/2(6)	1.5643D+11	1.0527D+10
57.941	5/2(25)*	4.238D-13	5/2(8)	2.2572D+11	2.1591D+10
57.942	3/2(32)*	3.268D-13	3/2(11)	5.9613D+11	1.1614D+11
57.946	5/2(19)*	7.369D-13	3/2(7)	2.5200D+11	4.6795D+10
57.953	5/2(13)	2.473D-12	5/2(2)*	1.1080D+11	3.0359D+10
58.163	3/2(11)	1.087D-12	3/2(3)*	8.7071D+11	8.2404D+11
58.188	9/2(9)*	4.439D-13	7/2(4)	9.0025D+11	3.5975D+11
58.212	1/2(19)*	6.401D-13	1/2(7)	7.6261D+11	3.7227D+11
58.273	3/2(6)	2.383D-12	5/2(1)*	9.8729D+10	2.3230D+10
58.533	3/2(22)*	5.923D-13	5/2(7)	2.3432D+11	3.2520D+10
58.621	3/2(14)*	1.245D-12	3/2(5)	2.8393D+11	1.0039D+11
58.804	7/2(18)*	4.044D-13	5/2(8)	6.9335D+11	1.9443D+11
58.983	7/2(3)	1.627D-12	5/2(1)*	6.1468D+11	6.1468D+11
59.113	9/2(4)	1.743D-12	9/2(1)*	1.4837D+11	3.8364D+10
59.215	7/2(6)*	1.204D-12	5/2(4)	9.2723D+10	1.0352D+10
59.233	3/2(13)*	1.254D-12	3/2(5)	1.4921D+11	2.7910D+10
59.314	3/2(20)*	7.858D-13	3/2(7)	6.3081D+11	3.1269D+11
59.356	5/2(27)*	9.953D-13	5/2(9)	3.5418D+11	1.2486D+11
59.417	5/2(10)*	1.768D-12	5/2(5)	3.2270D+11	1.8409D+11
59.522	3/2(16)	1.704D-12	3/2(6)*	1.9588D+11	6.5371D+10
59.565	5/2(14)	1.504D-12	5/2(4)*	3.4682D+11	1.8093D+11
59.667	9/2(10)*	9.837D-13	7/2(5)	3.1681D+11	9.8733D+10
59.697	5/2(26)*	4.376D-13	3/2(10)	4.8445D+11	1.0271D+11
59.823	7/2(10)*	8.976D-13	5/2(6)	2.2942D+11	4.7242D+10
59.857	3/2(7)*	1.173D-12	1/2(1)	2.6226D+11	8.0704D+10
59.903	7/2(3)*	1.560D-12	5/2(2)	3.0487D+11	1.4496D+11
59.954	3/2(13)	2.492D-12	3/2(4)*	8.0478D+10	1.6142D+10
59.975	9/2(10)*	9.837D-13	9/2(2)	2.2849D+11	5.1358D+10
60.024	3/2(13)	2.492D-12	1/2(2)*	2.2684D+11	1.2825D+11
60.025	1/2(18)*	4.178D-13	3/2(10)	4.7414D+11	9.3929D+10
60.067	1/2(4)	1.845D-12	1/2(1)*	3.7918D+11	2.6531D+11
60.119	3/2(19)	6.830D-13	3/2(9)*	1.3392D+11	1.2250D+10

Continued...

Table 14 (contd)

λ	Upper	τ	Lower	A	A_{br}
60.208	7/2(2)*	2.508D-12	5/2(2)	2.8978D+11	2.1058D+11
60.219	5/2(19)*	7.369D-13	5/2(7)	7.2110D+11	3.8318D+11
60.316	5/2(17)*	8.030D-13	3/2(7)	6.5305D+11	3.4247D+11
60.316	9/2(3)	2.100D-12	7/2(1)*	3.7027D+11	2.8783D+11
60.459	3/2(6)	2.383D-12	1/2(1)*	2.8392D+11	1.9212D+11
60.494	3/2(29)*	1.714D-12	5/2(9)	3.7477D+11	2.4072D+11
60.496	3/2(31)*	5.393D-13	3/2(11)	5.5015D+11	1.6323D+11
60.584	3/2(23)*	5.412D-13	1/2(5)	8.7006D+11	4.0966D+11
60.687	5/2(12)	2.780D-12	3/2(4)*	2.3851D+11	1.5812D+11
60.717	7/2(19)*	1.912D-12	7/2(5)	7.3279D+10	1.0268D+10
60.762	3/2(10)*	1.819D-12	3/2(3)	1.0618D+11	2.0514D+10
60.806	1/2(6)*	4.902D-12	3/2(3)	4.5701D+10	1.0238D+10
60.835	3/2(23)*	5.412D-13	3/2(8)	3.3553D+11	6.0924D+10
60.852	1/2(6)*	4.902D-12	1/2(2)	1.3848D+11	9.4004D+10
60.918	7/2(5)*	5.739D-13	5/2(4)	1.8325D+11	1.9272D+10
60.943	3/2(20)	7.221D-13	3/2(9)*	2.9934D+11	6.4704D+10
61.035	7/2(19)*	1.912D-12	9/2(2)	7.9650D+10	1.2131D+10
61.056	5/2(7)*	3.255D-12	5/2(3)	9.4235D+10	2.8905D+10
61.074	1/2(4)*	2.357D-12	1/2(1)	3.4846D+11	2.8621D+11
61.144	7/2(14)*	8.021D-13	5/2(7)	6.4126D+11	3.2985D+11
61.203	7/2(6)	2.871D-12	5/2(2)*	2.4482D+11	1.7210D+11
61.226	5/2(7)*	3.255D-12	3/2(3)	1.2286D+11	4.9133D+10
61.244	3/2(27)*	3.712D-13	3/2(10)	2.8812D+11	3.0816D+10
61.336	7/2(9)*	5.341D-13	5/2(6)	1.6565D+11	1.4658D+10
61.371	7/2(8)	1.849D-12	7/2(3)*	7.7642D+10	1.1144D+10
61.374	7/2(4)*	3.452D-12	5/2(3)	1.8774D+11	1.2167D+11
61.404	5/2(20)*	5.557D-13	3/2(8)	7.1951D+11	2.8769D+11
61.497	5/2(1)	4.959D-12	3/2(1)*	2.0095D+11	2.0026D+11
61.605	1/2(14)*	6.455D-13	1/2(5)	2.8782D+11	5.3476D+10
61.628	5/2(5)*	1.089D-12	3/2(2)	5.0342D+11	2.7587D+11
61.637	9/2(2)*	3.387D-12	7/2(1)	2.5980D+11	2.2860D+11
61.699	11/2(3)*	2.188D-12	9/2(2)	3.3870D+11	2.5101D+11
61.804	1/2(9)*	1.090D-12	3/2(6)	1.5340D+11	2.5644D+10
61.834	1/2(12)	9.273D-13	3/2(7)*	1.1432D+11	1.2119D+10
61.849	3/2(31)*	5.393D-13	5/2(10)	2.1291D+11	2.4446D+10
61.865	1/2(14)*	6.455D-13	3/2(8)	1.8608D+11	2.2353D+10

Continued...

Table 14 (contd)

λ	Upper	τ	Lower	A	A_{br}
61.884	5/2(4)*	2.834D-12	5/2(2)	1.4114D+11	5.6450D+10
61.897	5/2(27)*	9.953D-13	3/2(11)	2.0312D+11	4.1065D+10
61.922	3/2(14)	2.967D-12	3/2(5)*	1.1046D+11	3.6200D+10
62.006	7/2(21)*	4.115D-13	5/2(10)	5.2961D+11	1.1541D+11
62.022	3/2(22)*	5.923D-13	3/2(8)	2.8820D+11	4.9194D+10
62.076	5/2(13)	2.473D-12	3/2(5)*	1.2489D+11	3.8575D+10
62.221	3/2(5)	7.670D-12	3/2(2)*	9.5473D+10	6.9910D+10
62.695	1/2(11)	1.286D-12	3/2(7)*	1.7501D+11	3.9387D+10
63.053	7/2(7)	2.425D-12	5/2(3)*	2.0734D+11	1.0424D+11
63.155	5/2(5)	6.011D-12	5/2(1)*	8.4294D+10	4.2714D+10
63.434	3/2(16)	1.704D-12	1/2(4)*	1.2387D+11	2.6142D+10
63.445	1/2(10)	2.875D-12	1/2(3)*	1.4051D+11	5.6764D+10
63.738	9/2(4)	1.743D-12	7/2(2)*	2.7683D+11	1.3356D+11
64.083	9/2(4)	1.743D-12	7/2(3)*	9.0608D+10	1.4308D+10
64.123	5/2(18)	8.606D-13	3/2(9)*	4.9636D+11	2.1204D+11
64.371	1/2(7)	1.353D-11	3/2(3)*	4.8615D+10	3.1983D+10
64.501	5/2(10)*	1.768D-12	3/2(6)	1.0626D+11	1.9962D+10
64.901	7/2(8)	1.849D-12	5/2(5)*	2.5404D+11	1.1930D+11
64.957	7/2(20)*	5.838D-13	5/2(10)	2.0790D+11	2.5234D+10
65.236	9/2(4)*	2.055D-12	7/2(3)	1.4710D+11	4.4455D+10
66.528	9/2(3)*	3.529D-12	7/2(3)	1.0524D+11	3.9089D+10
66.682	7/2(7)*	2.225D-12	5/2(6)	1.7235D+11	6.6087D+10
68.018	1/2(9)	7.797D-12	3/2(4)*	3.8024D+10	1.1273D+10
73.526	1/2(9)	7.797D-12	3/2(5)*	3.8791D+10	1.1732D+10
73.583	3/2(1)	5.372D-11	3/2(1)*	1.8580D+10	1.8545D+10
116.805	9/2(1)*	2.867D-11	7/2(2)	2.4518D+10	1.7232D+10

Table 15Energy levels (cm^{-1}) and lifetimes (s) in Pt^{44+} (Se-like).

Occ	$J(\text{No})^P$	E	τ
4622200	2(1)	0	0.000D+00
4622200	0(1)	77464	3.853D+02
4621300	1(1)	987450	5.021D-08
4621300	2(2)	1024688	1.004D-07
4622110	2(1)*	1354624	8.344D-11
4622110	1(1)*	1381638	4.161D-11
4622110	0(1)*	1382396	8.649D-08
4622110	3(1)*	1388775	1.886D-09
4622101	4(1)*	1583230	1.010D-05
4622101	2(2)*	1600157	1.147D-11
4622101	3(2)*	1703393	1.733D-12
4622101	1(2)*	1734366	2.898D-12
4612300	2(3)*	1917296	1.768D-12
4612300	1(3)*	2015924	1.120D-12
4620400	0(2)	2047010	2.129D-08
4621210	1(4)*	2302041	1.227D-11
4621210	2(4)*	2302614	1.037D-10
4621210	0(2)*	2305447	5.994D-11
4621210	3(3)*	2336436	4.564D-11
4621210	4(2)*	2372720	2.961D-07
4621210	2(5)*	2421158	8.054D-12
4621201	3(4)*	2501977	9.940D-13
4621210	2(6)*	2504576	3.949D-13
4621210	1(5)*	2514408	3.855D-13
4621201	3(5)*	2515394	6.980D-13
4621201	4(3)*	2522896	6.367D-08
4621201	1(6)*	2570117	2.360D-12
4621201	4(4)*	2570573	2.684D-07
4621201	0(3)*	2576426	2.926D-11
4621210	1(7)*	2582248	4.120D-13
4621201	5(1)*	2582956	2.863D-07
4621201	2(7)*	2656098	6.143D-11
4621201	3(6)*	2682594	1.418D-09
4621201	2(8)*	2715005	1.527D-12
4621201	1(8)*	2724477	1.085D-12

Continued..

Table 15 (contd)

Occ	J(No) ^P	E	τ
4622020	2(3)	2732680	2.354D-11
4621201	3(7)*	2754300	1.231D-12
4621201	2(9)*	2775294	7.760D-13
4622020	0(3)	2807362	1.978D-11
4611400	0(4)*	2936236	1.079D-12
4622011	3(1)	2975474	4.639D-12
4622011	2(4)	3010917	4.581D-12
4622011	1(2)	3019758	4.935D-12
4622011	4(1)	3021925	3.548D-12
4611400	1(9)*	3027019	6.266D-13
4612210	2(5)	3183675	3.683D-12
4612210	1(3)	3204903	2.665D-12
4612210	3(2)	3207708	3.506D-12
4622002	4(2)	3208313	3.831D-12
4612210	4(3)	3244430	2.228D-12
4622002	2(6)	3282395	2.056D-12
4612210	1(4)	3307084	1.803D-12
4612201	0(4)	3310295	2.918D-12
4612210	3(3)	3311536	1.190D-12
4612210	1(5)	3329794	1.551D-12
4612210	2(7)	3346339	1.909D-12
4612210	2(8)	3361302	1.022D-12
4612210	0(5)	3368553	1.656D-12
4612201	5(1)	3369944	6.581D-12
4612201	4(4)	3432116	1.864D-12
4620310	0(5)*	3451115	3.772D-13
4620310	1(10)*	3473486	4.555D-13
4620310	3(8)*	3492061	5.099D-13
4620310	2(10)*	3497756	5.586D-13
4612201	1(6)	3510271	1.801D-12
4612201	3(4)	3519558	2.816D-12
4612201	0(6)	3523533	1.420D-12
4612201	4(5)	3561170	1.412D-12
4612201	3(5)	3569099	1.770D-12
4612201	3(6)	3576861	9.833D-13
4620301	4(5)*	3584512	2.751D-08

Continued...

Table 15 (contd)

Occ	J(No) ^P	E	τ
4612201	2(9)	3602542	1.391D-12
4620301	2(11)*	3604332	3.207D-11
4612201	2(10)	3605966	1.719D-12
4620301	3(9)*	3651600	1.873D-10
4612201	1(7)	3663469	1.013D-12
4612201	2(12)	3677428	8.206D-13
4621120	1(8)	3779924	1.005D-12
4621120	2(11)	3794981	8.825D-13
4621120	3(7)	3807205	1.241D-12
4620301	1(11)*	3824597	7.167D-13
4621120	4(6)	3831281	1.477D-12
4621120	1(9)	3847505	4.637D-13
4621120	2(13)	3879081	5.843D-13
4621111	4(7)	3885168	7.963D-12
4621111	3(8)	3892902	4.239D-12
4621111	2(14)	3901657	2.251D-12
4621111	5(2)	3903536	6.909D-11
4621111	0(7)	3905349	3.260D-12
4621111	1(10)	3912085	4.428D-12
4621120	1(11)	3913371	2.608D-13
4621120	2(16)	3915307	2.854D-13
4621111	2(15)	3920661	2.299D-12
4621111	3(9)	3926541	6.060D-13
4621120	0(8)	3935710	2.392D-13
4621120	3(10)	3938086	4.125D-13
4621111	4(8)	3955755	4.201D-12
4621111	6(1)	3971374	6.446D-10
4602400	0(9)	3982458	5.847D-13
4621111	3(11)	4031841	9.965D-13
4621111	4(9)	4041184	1.296D-12
4621111	2(17)	4044125	1.155D-12
4621111	5(4)	4056632	1.301D-12
4621111	1(12)	4064430	6.283D-13
4621111	4(10)	4075016	3.452D-13
4621111	2(18)	4077075	9.917D-13
4621111	5(3)	4078943	6.263D-13

Continued...

Table 15 (contd)

Occ	J(No) ^P	E	τ
4621111	3(12)	4080157	1.292D-12
4621111	1(13)	4097919	1.311D-12
4621111	2(19)	4100543	4.136D-13
4621111	1(14)	4102389	3.714D-13
4621111	3(14)	4106485	3.774D-13
4621111	3(13)	4112993	4.958D-13
4621102	2(20)	4143371	2.762D-12
4621102	3(15)	4169364	2.301D-12
4621102	5(5)	4169433	1.441D-12
4621102	3(16)	4180127	1.885D-12
4611310	0(10)	4180760	8.276D-13
4621102	4(11)	4181886	1.156D-12
4621111	3(17)	4191788	3.267D-13
4611310	1(15)	4194353	9.183D-13
4621102	6(2)	4197449	4.145D-12
4621102	4(12)	4215087	1.799D-12
4621111	2(21)	4216826	2.862D-13
4621111	4(13)	4217525	4.838D-13
4621111	1(16)	4219576	3.890D-13
4611310	3(18)	4231897	9.020D-13
4621111	0(11)	4237688	3.545D-13
4611310	2(22)	4238158	7.840D-13
4621102	5(6)	4241535	1.694D-12
4621111	2(23)	4246718	3.638D-13
4611310	4(14)	4275472	8.122D-13
4621102	1(17)	4276480	1.074D-12
4621102	1(18)	4309117	1.279D-12
4621102	0(12)	4320831	5.548D-13
4621102	2(24)	4326653	1.863D-12
4621102	3(19)	4344656	1.057D-12
4621102	3(20)	4346187	7.610D-13
4611310	1(19)	4347109	4.378D-13
4621102	2(26)	4348306	7.868D-13
4621102	2(25)	4349283	9.659D-13
4611301	4(15)	4363296	9.822D-13
4621102	4(16)	4369115	9.719D-13

Continued...

Table 15 (contd)

Occ	J(No) ^P	E	τ
4611310	3(21)	4382455	5.966D-13
4611310	3(22)	4392130	3.603D-13
4611310	1(20)	4398346	3.618D-13
4621102	2(27)	4407365	5.635D-13
4621102	1(21)	4413164	5.280D-13
4611310	2(28)	4414782	4.273D-13
4611301	5(7)	4448415	1.386D-12
4611310	2(30)	4452084	3.498D-13
4611301	3(23)	4455699	1.178D-12
4611310	1(22)	4459146	3.886D-13
4611301	2(29)	4474786	8.962D-13
4611310	0(13)	4503678	2.805D-13
4612120	1(12)*	4510503	9.803D-12
4612120	2(12)*	4517475	1.253D-11
4612120	0(6)*	4525279	7.751D-12
4611301	4(17)	4533746	1.234D-12
4611301	3(24)	4547167	8.299D-13
4612120	3(10)*	4547736	1.138D-11
4611301	2(31)	4568424	6.795D-13
4611301	1(23)	4572355	5.573D-13
4612120	4(6)*	4572668	1.820D-11
4611301	3(25)	4577939	6.228D-13
4611301	4(18)	4589842	7.241D-13
4611301	1(24)	4615901	6.573D-13
4612120	2(13)*	4619996	1.104D-11
4611301	3(26)	4620286	8.193D-13
4611301	2(32)	4625816	6.494D-13
4612120	1(13)*	4643879	1.372D-12
4612120	2(14)*	4667490	1.154D-12
4612120	3(11)*	4675058	1.221D-12
4611301	1(25)	4702962	4.773D-13
4611301	0(14)	4723024	4.987D-13
4612111	5(2)*	4731690	1.421D-11
4612111	4(7)*	4746115	1.084D-11
4612111	3(12)*	4765082	1.313D-11
4612120	1(14)*	4783542	1.059D-12

Continued...

Table 15 (contd)

Occ	J(No) ^P	E	τ
4612111	6(1)*	4798688	2.761D-11
4612111	1(15)*	4801272	1.799D-12
4612111	2(15)*	4809559	2.267D-12
4612111	3(13)*	4814825	1.885D-12
4612111	3(14)*	4840829	2.356D-12
4612111	4(8)*	4844124	2.723D-12
4612111	0(7)*	4845290	3.806D-12
4612111	4(9)*	4848196	1.860D-12
4612111	4(10)*	4852588	1.262D-12
4612111	2(17)*	4869407	1.489D-12
4612111	1(16)*	4870713	2.257D-12
4612111	5(3)*	4877771	1.963D-12
4612111	2(16)*	4884998	2.361D-12
4612111	3(15)*	4891002	1.712D-12
4612111	3(16)*	4896436	1.313D-12
4612111	2(18)*	4908772	1.405D-12
4612111	5(4)*	4913362	1.049D-12
4612111	1(17)*	4950618	1.713D-12
4612111	2(19)*	4962072	1.601D-12
4612111	2(20)*	4966023	8.535D-13

Table 16Transitions in Pt⁴⁴⁺ (Se-like).

λ	Upper	τ	Lower	A	A_{br}
37.778	1(8)*	1.085D-12	0(1)	1.3977D+11	2.1191D+10
37.996	4(12)	1.799D-12	4(1)*	8.7216D+10	1.3686D+10
38.256	2(26)	7.868D-13	1(2)*	1.2730D+11	1.2750D+10
38.663	0(12)	5.548D-13	1(2)*	6.1329D+11	2.0866D+11
38.667	5(5)	1.441D-12	4(1)*	3.6432D+11	1.9130D+11
38.708	3(10)	4.125D-13	2(1)*	3.4555D+11	4.9256D+10
38.760	3(16)	1.885D-12	2(2)*	2.5401D+11	1.2165D+11
38.765	2(11)*	3.210D-11	2(2)	1.8244D+10	1.0686D+10
38.839	1(18)	1.279D-12	1(2)*	2.6476D+11	8.9691D+10
38.879	4(14)	8.123D-13	3(2)*	2.4825D+11	5.0058D+10
38.882	3(9)	6.060D-13	2(1)*	1.5656D+11	1.4852D+10
38.909	1(6)*	2.360D-12	2(1)	3.0763D+11	2.2337D+11
38.971	2(15)	2.299D-12	2(1)*	1.5693D+11	5.6628D+10
39.052	2(16)	2.854D-13	2(1)*	5.9863D+11	1.0226D+11
39.082	1(11)	2.608D-13	2(1)*	1.9548D+12	9.9644D+11
39.101	1(10)	4.429D-12	2(1)*	7.9449D+10	2.7953D+10
39.117	1(23)	5.574D-13	1(3)*	5.7667D+11	1.8537D+11
39.153	0(8)	2.392D-13	1(1)*	4.1247D+12	4.0696D+12
39.177	2(31)	6.797D-13	1(3)*	2.1245D+11	3.0677D+10
39.226	3(10)	4.125D-13	3(1)*	1.9985D+12	1.6475D+12
39.261	2(14)	2.251D-12	2(1)*	1.3476D+11	4.0874D+10
39.319	2(23)	3.638D-13	3(2)*	9.8345D+11	3.5185D+11
39.337	1(17)	1.074D-12	1(2)*	3.0814D+11	1.0197D+11
39.385	2(15)	2.299D-12	1(1)*	9.0058D+10	1.8649D+10
39.405	3(9)	6.060D-13	3(1)*	1.3760D+12	1.1473D+12
39.468	2(16)	2.854D-13	1(1)*	6.9471D+11	1.3772D+11
39.499	1(11)	2.608D-13	1(1)*	5.1950D+11	7.0377D+10
39.510	1(11)	2.608D-13	0(1)*	1.3127D+12	4.4938D+11
39.529	3(13)	4.958D-13	4(1)*	2.9098D+11	4.1976D+10
39.580	2(16)	2.854D-13	3(1)*	2.1771D+12	1.3526D+12
39.612	2(13)	5.843D-13	2(1)*	9.8753D+11	5.6986D+11
39.624	0(7)	3.261D-12	1(1)*	2.1074D+11	1.4481D+11
39.631	3(14)	3.774D-13	4(1)*	2.4750D+12	2.3118D+12
39.755	3(5)*	6.980D-13	2(1)	1.4319D+12	1.4311D+12
39.771	1(5)*	3.855D-13	2(1)	2.5720D+12	2.5505D+12

Continued...

Table 16 (contd)

λ	Upper	τ	Lower	A	A_{br}
39.775	4(13)	4.839D-13	3(2)*	1.2100D+12	7.0839D+11
39.786	2(21)	2.862D-13	3(2)*	2.1248D+12	1.2924D+12
39.795	2(14)	2.251D-12	3(1)*	2.2713D+11	1.1612D+11
39.796	3(13)	4.958D-13	2(2)*	1.4447D+12	1.0347D+12
39.803	2(23)	3.638D-13	1(2)*	9.8666D+11	3.5416D+11
39.836	2(10)*	5.586D-13	1(1)	8.8964D+11	4.4213D+11
39.924	1(7)*	4.120D-13	0(1)	2.4032D+12	2.3797D+12
39.927	2(6)*	3.949D-13	2(1)	2.5268D+12	2.5212D+12
39.934	3(8)	4.239D-12	3(1)*	8.9178D+10	3.3712D+10
39.939	2(22)	7.841D-13	1(2)*	1.7093D+11	2.2907D+10
39.947	0(11)	3.545D-13	1(2)*	2.0783D+12	1.5314D+12
39.964	1(14)	3.714D-13	2(2)*	2.4052D+12	2.1486D+12
39.968	3(4)*	9.941D-13	2(1)	1.0058D+12	1.0056D+12
39.994	2(19)	4.136D-13	2(2)*	2.1953D+12	1.9930D+12
40.036	1(13)	1.311D-12	2(2)*	1.3165D+11	2.2726D+10
40.040	2(28)	4.273D-13	2(3)*	8.2582D+11	2.9142D+11
40.041	2(13)	5.843D-13	1(1)*	3.9554D+11	9.1422D+10
40.069	5(3)	6.263D-13	4(1)*	1.5574D+12	1.5192D+12
40.114	1(9)	4.637D-13	2(1)*	1.2761D+12	7.5514D+11
40.118	1(6)*	2.360D-12	0(1)	7.2270D+10	1.2328D+10
40.132	4(10)	3.452D-13	4(1)*	2.8708D+12	2.8449D+12
40.156	2(13)	5.843D-13	3(1)*	2.8837D+11	4.8592D+10
40.160	2(27)	5.635D-13	2(3)*	5.6396D+11	1.7922D+11
40.187	3(17)	3.267D-13	3(2)*	2.3769D+12	1.8458D+12
40.197	0(13)	2.805D-13	1(3)*	2.2061D+12	1.3651D+12
40.225	1(10)*	4.555D-13	1(1)	1.5998D+12	1.1658D+12
40.238	1(16)	3.890D-13	1(2)*	2.0000D+12	1.5561D+12
40.283	2(21)	2.862D-13	1(2)*	7.1633D+11	1.4688D+11
40.306	1(20)	3.618D-13	2(3)*	1.3929D+12	7.0184D+11
40.347	4(11)	1.156D-12	3(2)*	3.8147D+11	1.6829D+11
40.373	2(18)	9.917D-13	2(2)*	2.0008D+11	3.9700D+10
40.407	3(22)	3.603D-13	2(3)*	1.3449D+12	6.5173D+11
40.436	2(10)*	5.586D-13	2(2)	9.0036D+11	4.5285D+11
40.529	3(8)*	5.099D-13	2(2)	1.9612D+12	1.9611D+12
40.552	3(15)	2.302D-12	3(2)*	9.6455D+10	2.1412D+10
40.554	1(9)	4.637D-13	1(1)*	7.2223D+11	2.4188D+11

Continued...

Table 16 (contd)

λ	Upper	τ	Lower	A	A_{br}
40.565	3(21)	5.966D-13	2(3)*	1.4348D+11	1.2282D+10
40.580	1(12)	6.283D-13	2(2)*	4.2784D+11	1.1500D+11
40.590	0(5)*	3.772D-13	1(1)	2.6509D+12	2.6509D+12
40.651	1(15)	9.184D-13	1(2)*	1.7230D+11	2.7263D+10
40.773	3(7)	1.241D-12	2(1)*	7.2039D+11	6.4423D+11
40.836	1(10)*	4.555D-13	2(2)	5.9489D+11	1.6121D+11
40.930	1(22)	3.886D-13	1(3)*	1.0576D+12	4.3468D+11
40.942	4(6)	1.477D-12	3(1)*	6.6169D+11	6.4690D+11
40.978	2(11)	8.825D-13	2(1)*	4.6020D+11	1.8690D+11
41.048	2(30)	3.498D-13	1(3)*	1.3863D+12	6.7221D+11
41.119	2(25)	9.659D-13	2(3)*	1.2407D+11	1.4868D+10
41.124	3(11)	9.965D-13	2(2)*	3.8413D+11	1.4704D+11
41.135	2(26)	7.868D-13	2(3)*	1.8818D+11	2.7863D+10
41.155	1(19)	4.378D-13	2(3)*	9.0858D+11	3.6141D+11
41.197	3(19)	1.057D-12	2(3)*	1.2460D+11	1.6409D+10
41.303	2(5)*	8.055D-12	2(1)	1.2230D+11	1.2047D+11
41.436	2(11)	8.825D-13	1(1)*	6.3406D+11	3.5479D+11
41.511	2(20)	2.762D-12	1(2)*	8.6394D+10	2.0615D+10
41.696	1(8)	1.005D-12	1(1)*	3.6729D+11	1.3558D+11
41.710	1(8)	1.005D-12	0(1)*	4.8975D+11	2.4106D+11
42.149	4(8)	4.202D-12	4(1)*	9.5308D+10	3.8165D+10
42.800	3(3)*	4.566D-11	2(1)	1.9896D+10	1.8074D+10
43.204	3(18)	9.020D-13	2(3)*	1.4248D+11	1.8313D+10
43.296	3(8)	4.239D-12	4(1)*	7.6975D+10	2.5117D+10
43.440	1(4)*	1.227D-11	2(1)	4.3672D+10	2.3401D+10
43.442	4(7)	7.964D-12	4(1)*	9.9537D+10	7.8900D+10
46.193	0(10)	8.277D-13	1(3)*	3.8137D+11	1.2038D+11
47.716	1(20)	3.618D-13	2(4)*	2.4195D+11	2.1178D+10
48.115	2(28)	4.273D-13	3(3)*	3.2032D+11	4.3845D+10
48.361	1(23)	5.574D-13	2(6)*	1.3414D+11	1.0030D+10
48.465	1(16)*	2.260D-12	0(3)	8.0723D+10	1.4726D+10
48.466	1(7)	1.013D-12	2(2)*	1.5482D+11	2.4281D+10
48.484	3(25)	6.230D-13	3(5)*	1.5215D+11	1.4422D+10
48.661	3(25)	6.230D-13	4(3)*	2.2106D+11	3.0443D+10
48.708	2(31)	6.797D-13	3(5)*	1.3226D+11	1.1889D+10
48.760	1(14)*	1.059D-12	2(3)	2.7968D+11	8.2836D+10

Continued...

Table 16 (contd)

λ	Upper	τ	Lower	A	A_{br}
48.787	3(26)	8.195D-13	4(4)*	2.3000D+11	4.3353D+10
48.898	1(19)	4.378D-13	1(4)*	2.5798D+11	2.9136D+10
48.980	1(19)	4.378D-13	0(2)*	2.0194D+11	1.7853D+10
49.523	4(18)	7.242D-13	4(4)*	1.2004D+11	1.0435D+10
49.605	1(3)*	1.120D-12	2(1)	5.0795D+11	2.8896D+11
49.705	2(26)	7.868D-13	3(3)*	2.2638D+11	4.0324D+10
49.758	3(21)	5.966D-13	4(2)*	8.8236D+11	4.6448D+11
49.828	4(18)	7.242D-13	5(1)*	8.2944D+11	4.9825D+11
49.834	2(8)	1.022D-12	2(1)*	4.6392D+11	2.1998D+11
49.855	2(10)	1.720D-12	2(2)*	1.1036D+11	2.0948D+10
49.942	1(9)*	6.266D-13	2(2)	1.5177D+12	1.4433D+12
49.944	1(23)	5.574D-13	1(6)*	1.5809D+11	1.3931D+10
50.036	0(14)	4.988D-13	1(8)*	1.7532D+11	1.5330D+10
50.042	2(31)	6.797D-13	1(6)*	1.4332D+11	1.3961D+10
50.102	1(23)	5.574D-13	0(3)*	2.0980D+11	2.4535D+10
50.153	1(15)*	1.799D-12	0(3)	9.7829D+10	1.7215D+10
50.237	2(20)*	8.536D-13	3(1)	4.5667D+11	1.7802D+11
50.249	1(23)	5.574D-13	1(7)*	1.7245D+11	1.6577D+10
50.270	0(13)	2.805D-13	1(5)*	6.7756D+11	1.2877D+11
50.329	0(5)	1.656D-12	1(1)*	2.8493D+11	1.3447D+11
50.356	3(5)	1.770D-12	4(1)*	4.5434D+11	3.6540D+11
50.514	2(8)	1.022D-12	1(1)*	1.8216D+11	3.3916D+10
50.558	4(5)	1.412D-12	4(1)*	3.4857D+11	1.7161D+11
50.577	1(20)	3.618D-13	2(5)*	1.7431D+11	1.0992D+10
50.592	3(24)	8.300D-13	4(4)*	7.2574D+11	4.3716D+11
50.603	1(14)*	1.059D-12	0(3)	5.6382D+11	3.3666D+11
50.658	2(12)	8.207D-13	3(2)*	3.7152D+11	1.1328D+11
50.689	2(29)	8.963D-13	3(4)*	1.5081D+11	2.0384D+10
50.696	2(8)	1.022D-12	3(1)*	2.6550D+11	7.2052D+10
50.769	2(32)	6.496D-13	2(7)*	6.2451D+11	2.5335D+11
50.851	0(9)	5.848D-13	1(3)*	1.5201D+12	1.3512D+12
50.898	2(7)	1.909D-12	1(1)*	1.1053D+11	2.3322D+10
50.938	4(17)	1.234D-12	4(4)*	1.9510D+11	4.6985D+10
50.987	3(21)	5.966D-13	2(5)*	4.2435D+11	1.0743D+11
51.036	2(29)	8.963D-13	3(5)*	1.2066D+11	1.3049D+10
51.084	2(7)	1.909D-12	3(1)*	2.4282D+11	1.1256D+11

Continued...

Table 16 (contd)

λ	Upper	τ	Lower	A	A_{br}
51.101	3(3)	1.190D-12	2(1)*	3.2574D+11	1.2627D+11
51.162	1(22)	3.886D-13	2(6)*	2.7937D+11	3.0330D+10
51.217	1(4)	1.803D-12	2(1)*	4.6878D+11	3.9620D+11
51.252	2(19)*	1.602D-12	2(4)	7.9179D+10	1.0045D+10
51.261	4(17)	1.234D-12	5(1)*	2.6158D+11	8.4460D+10
51.314	0(4)*	1.079D-12	1(1)	9.2650D+11	9.2650D+11
51.331	1(5)	1.551D-12	1(1)*	2.9983D+11	1.3946D+11
51.351	1(5)	1.551D-12	0(1)*	2.7751D+11	1.1947D+11
51.380	2(20)*	8.536D-13	1(2)	1.8680D+11	2.9786D+10
51.421	1(22)	3.886D-13	1(5)*	2.9099D+11	3.2904D+10
51.461	2(32)	6.496D-13	3(6)*	2.0455D+11	2.7180D+10
51.483	3(11)*	1.221D-12	2(3)	7.4008D+11	6.6863D+11
51.554	1(17)*	1.715D-12	2(4)	1.5765D+11	4.2613D+10
51.587	1(3)*	1.120D-12	0(1)	3.3827D+11	1.2815D+11
51.608	3(26)	8.195D-13	3(6)*	6.5189D+11	3.4827D+11
51.634	2(30)	3.498D-13	3(5)*	2.5481D+11	2.2711D+10
51.650	2(22)	7.841D-13	1(4)*	1.2942D+11	1.3132D+10
51.665	2(22)	7.841D-13	2(4)*	3.8279D+11	1.1489D+11
51.685	2(14)*	1.154D-12	2(3)	7.6822D+11	6.8102D+11
51.725	2(18)*	1.406D-12	3(1)	8.7819D+10	1.0844D+10
51.738	3(23)	1.178D-12	4(3)*	4.0558D+11	1.9377D+11
51.833	3(18)	9.020D-13	2(4)*	3.4573D+11	1.0782D+11
51.838	1(7)	1.013D-12	1(2)*	3.5590D+11	1.2831D+11
51.850	0(4)	2.918D-12	1(1)*	2.6037D+11	1.9784D+11
51.864	2(25)	9.659D-13	2(5)*	1.0527D+11	1.0704D+10
51.876	1(25)	4.773D-13	2(9)*	6.3179D+11	1.9053D+11
51.890	2(26)	7.868D-13	2(5)*	2.7892D+11	6.1209D+10
51.922	1(19)	4.378D-13	2(5)*	4.4711D+11	8.7519D+10
52.009	3(3)	1.190D-12	3(1)*	4.5899D+11	2.5071D+11
52.045	0(13)	2.805D-13	1(7)*	3.4829D+11	3.4025D+10
52.100	3(4)	2.819D-12	2(2)*	2.8522D+11	2.2933D+11
52.157	2(3)*	1.768D-12	2(1)	5.3776D+11	5.1124D+11
52.185	1(23)	5.574D-13	2(7)*	2.4638D+11	3.3837D+10
52.323	1(13)*	1.373D-12	2(3)	5.3170D+11	3.8803D+11
52.350	2(28)	4.273D-13	2(6)*	5.6089D+11	1.3444D+11
52.353	1(6)	1.802D-12	2(2)*	4.2398D+11	3.2386D+11

Continued...

Table 16 (contd)

λ	Upper	τ	Lower	A	A_{br}
52.369	2(16)*	2.363D-12	3(1)	7.9944D+10	1.5105D+10
52.432	4(18)	7.242D-13	3(6)*	1.2234D+11	1.0839D+10
52.554	2(27)	5.635D-13	2(6)*	1.3370D+11	1.0073D+10
52.555	4(14)	8.123D-13	4(2)*	5.9088D+11	2.8359D+11
52.584	2(22)	7.841D-13	3(3)*	4.5725D+11	1.6393D+11
52.595	2(32)	6.496D-13	1(8)*	3.0440D+11	6.0193D+10
52.607	1(24)	6.574D-13	2(8)*	3.4982D+11	8.0453D+10
52.655	2(9)	1.392D-12	3(2)*	1.5261D+11	3.2409D+10
52.758	3(18)	9.020D-13	3(3)*	4.8185D+11	2.0943D+11
52.800	2(17)*	1.490D-12	3(1)	1.1445D+11	1.9516D+10
52.805	1(20)	3.618D-13	2(6)*	1.8685D+11	1.2631D+10
52.845	1(15)	9.184D-13	1(4)*	1.4519D+11	1.9360D+10
52.861	1(15)	9.184D-13	2(4)*	5.9171D+11	3.2154D+11
52.870	5(4)*	1.049D-12	4(1)	3.7738D+11	1.4941D+11
52.938	2(18)*	1.406D-12	1(2)	1.9206D+11	5.1864D+10
52.979	3(22)	3.603D-13	2(6)*	1.8270D+11	1.2026D+10
53.027	2(31)	6.797D-13	3(6)*	4.1579D+11	1.1750D+11
53.036	3(16)*	1.313D-12	2(4)	3.7020D+11	1.7994D+11
53.080	1(20)	3.618D-13	1(5)*	2.0427D+11	1.5095D+10
53.228	0(10)	8.277D-13	1(4)*	7.5340D+11	4.6981D+11
53.273	4(10)*	1.262D-12	3(1)	3.5586D+11	1.5984D+11
53.284	3(22)	3.603D-13	3(5)*	5.1528D+11	9.5664D+10
53.377	3(6)	9.833D-13	3(2)*	3.4019D+11	1.1380D+11
53.398	4(9)*	1.861D-12	3(1)	1.1580D+11	2.4952D+10
53.430	2(10)	1.720D-12	1(2)*	1.8639D+11	5.9753D+10
53.481	2(30)	3.498D-13	1(7)*	4.8549D+11	8.2446D+10
53.502	3(15)*	1.712D-12	4(1)	1.1404D+11	2.2270D+10
53.528	2(9)	1.392D-12	1(2)*	9.7289D+10	1.3171D+10
53.606	5(7)	1.386D-12	5(1)*	6.7525D+11	6.3198D+11
53.609	3(14)*	2.358D-12	3(1)	1.2560D+11	3.7203D+10
53.679	3(25)	6.230D-13	2(8)*	2.1233D+11	2.8087D+10
53.828	4(5)	1.412D-12	3(2)*	3.0158D+11	1.2846D+11
53.884	5(3)*	1.964D-12	4(1)	2.0093D+11	7.9280D+10
53.889	4(3)	2.228D-12	3(1)*	2.6424D+11	1.5559D+11
53.954	2(31)	6.797D-13	2(8)*	2.0968D+11	2.9883D+10
53.964	3(2)	3.507D-12	2(1)*	2.0584D+11	1.4857D+11

Continued...

Table 16 (contd)

λ	Upper	τ	Lower	A	A_{br}
54.087	4(4)	1.864D-12	4(1)*	2.5778D+11	1.2385D+11
54.133	2(25)	9.659D-13	3(4)*	2.1300D+11	4.3823D+10
54.165	4(16)	9.719D-13	4(3)*	3.0883D+11	9.2699D+10
54.224	3(20)	7.611D-13	3(4)*	2.6964D+11	5.5334D+10
54.258	1(21)	5.281D-13	1(6)*	2.0734D+11	2.2702D+10
54.269	3(19)	1.057D-12	3(4)*	2.3272D+11	5.7238D+10
54.336	4(15)	9.822D-13	4(3)*	4.5091D+11	1.9970D+11
54.367	3(13)*	1.885D-12	3(1)	1.7111D+11	5.5202D+10
54.444	1(21)	5.281D-13	0(3)*	1.7702D+11	1.6547D+10
54.451	1(13)*	1.373D-12	0(3)	9.1528D+10	1.1498D+10
54.480	4(18)	7.242D-13	3(7)*	2.3597D+11	4.0328D+10
54.564	1(19)	4.378D-13	1(5)*	1.8661D+11	1.5246D+10
54.580	3(24)	8.300D-13	2(8)*	1.6158D+11	2.1670D+10
54.625	4(10)*	1.262D-12	4(1)	9.5826D+10	1.1590D+10
54.673	2(5)	3.683D-12	2(1)*	7.8162D+10	2.2502D+10
54.779	0(7)*	3.813D-12	1(2)	7.9975D+10	2.4388D+10
54.847	1(3)	2.665D-12	1(1)*	1.3549D+11	4.8914D+10
54.869	1(3)	2.665D-12	0(1)*	1.8934D+11	9.5525D+10
54.879	4(8)*	2.725D-12	4(1)	1.3698D+11	5.1120D+10
54.959	4(2)	3.831D-12	3(1)*	1.2158D+11	5.6634D+10
54.985	2(29)	8.963D-13	2(7)*	2.0369D+11	3.7185D+10
55.358	0(12)	5.548D-13	1(5)*	2.9155D+11	4.7155D+10
55.474	3(25)	6.230D-13	2(9)*	5.3592D+11	1.7892D+11
55.493	2(5)	3.683D-12	1(1)*	1.6174D+11	9.6354D+10
55.568	3(23)	1.178D-12	2(7)*	1.6173D+11	3.0811D+10
55.598	2(15)*	2.268D-12	2(4)	1.1944D+11	3.2352D+10
55.601	4(16)	9.719D-13	4(4)*	2.5760D+11	6.4494D+10
55.768	2(31)	6.797D-13	2(9)*	1.4676D+11	1.4640D+10
55.777	3(24)	8.300D-13	3(7)*	1.2915D+11	1.3843D+10
55.781	4(15)	9.822D-13	4(4)*	1.4008D+11	1.9273D+10
55.813	7(1)*	4.879D-12	6(1)	1.9991D+11	1.9496D+11
55.855	1(15)*	1.799D-12	2(4)	9.5881D+10	1.6536D+10
55.892	0(6)	1.421D-12	1(2)*	6.1573D+11	5.3872D+11
55.933	2(9)*	7.760D-13	1(1)	7.1787D+11	3.9992D+11
55.969	5(1)	6.581D-12	4(1)*	1.2360D+11	1.0055D+11
56.132	1(15)*	1.799D-12	1(2)	1.7430D+11	5.4650D+10

Continued...

Table 16 (contd)

λ	Upper	τ	Lower	A	A_{br}
56.197	4(17)	1.234D-12	3(7)*	2.8521D+11	1.0040D+11
56.256	1(11)*	7.167D-13	0(2)	1.3501D+12	1.3064D+12
56.257	3(12)	1.292D-12	2(4)*	1.0543D+11	1.4362D+10
56.319	3(20)	7.611D-13	4(4)*	1.4479D+11	1.5954D+10
56.337	2(18)	9.917D-13	1(4)*	3.0017D+11	8.9350D+10
56.386	4(14)	8.123D-13	3(4)*	1.4886D+11	1.7999D+10
56.741	1(12)	6.283D-13	1(4)*	4.3522D+11	1.1900D+11
56.851	1(12)	6.283D-13	0(2)*	4.2108D+11	1.1140D+11
57.120	0(12)	5.548D-13	1(6)*	7.8244D+11	3.3963D+11
57.123	2(9)*	7.760D-13	2(2)	5.4611D+11	2.3144D+11
57.133	2(29)	8.963D-13	1(8)*	3.1453D+11	8.8663D+10
57.403	2(17)	1.155D-12	1(4)*	2.3096D+11	6.1603D+10
57.421	2(17)	1.155D-12	2(4)*	4.2287D+11	2.0652D+11
57.450	2(18)	9.917D-13	3(3)*	1.0395D+11	1.0716D+10
57.504	1(18)	1.279D-12	1(6)*	1.2528D+11	2.0080D+10
57.570	1(8)*	1.085D-12	1(1)	6.3087D+11	4.3171D+11
57.648	1(22)	3.886D-13	1(8)*	3.5783D+11	4.9757D+10
57.658	1(2)*	2.898D-12	2(1)	9.2056D+10	2.4557D+10
57.698	7(2)*	5.819D-12	6(2)	1.6997D+11	1.6811D+11
57.726	2(23)	3.638D-13	1(5)*	2.6010D+11	2.4612D+10
57.816	3(7)*	1.232D-12	2(2)	7.7568D+11	7.4098D+11
57.829	3(11)	9.965D-13	2(4)*	3.1281D+11	9.7510D+10
57.846	4(4)	1.864D-12	3(2)*	2.4430D+11	1.1124D+11
57.885	2(8)*	1.527D-12	1(1)	3.6544D+11	2.0389D+11
58.290	4(13)	4.839D-13	3(4)*	4.4527D+11	9.5934D+10
58.373	4(12)	1.799D-12	3(4)*	1.4007D+11	3.5302D+10
58.385	3(16)*	1.313D-12	2(5)	1.0851D+11	1.5459D+10
58.567	3(12)	1.292D-12	4(2)*	1.2053D+11	1.8768D+10
58.571	3(15)*	1.712D-12	2(5)	1.6319D+11	4.5602D+10
58.604	1(17)	1.074D-12	1(6)*	1.8198D+11	3.5566D+10
58.649	5(4)*	1.049D-12	4(2)	1.6862D+11	2.9830D+10
58.660	4(9)	1.296D-12	3(3)*	6.2818D+11	5.1147D+11
58.690	2(18)*	1.406D-12	1(3)	1.0086D+11	1.4303D+10
58.706	3(2)*	1.733D-12	2(1)	5.7703D+11	5.7703D+11
58.740	2(21)	2.862D-13	1(5)*	2.7742D+11	2.2030D+10
58.750	4(13)	4.839D-13	3(5)*	1.8791D+11	1.7086D+10

Continued...

Table 16 (contd)

λ	Upper	τ	Lower	A	A_{br}
58.822	1(17)	1.074D-12	0(3)*	1.9249D+11	3.9793D+10
58.831	1(8)*	1.085D-12	2(2)	1.2681D+11	1.7442D+10
58.834	4(12)	1.799D-12	3(5)*	7.8048D+10	1.0960D+10
58.887	1(21)	5.281D-13	2(8)*	3.4298D+11	6.2118D+10
58.962	0(14)	4.988D-13	1(9)*	1.6922D+12	1.4283D+12
58.983	3(11)	9.965D-13	3(3)*	2.2460D+11	5.0269D+10
59.089	2(27)	5.635D-13	2(8)*	4.1816D+11	9.8529D+10
59.095	4(12)	1.799D-12	4(3)*	9.1185D+10	1.4960D+10
59.161	2(8)*	1.527D-12	2(2)	2.4549D+11	9.2012D+10
59.218	1(21)	5.281D-13	1(8)*	4.5476D+11	1.0921D+11
59.218	2(10)	1.720D-12	2(3)*	2.3354D+11	9.3811D+10
59.269	3(17)	3.267D-13	2(6)*	5.3191D+11	9.2436D+10
59.339	2(9)	1.392D-12	2(3)*	4.1534D+11	2.4005D+11
59.386	5(4)	1.301D-12	4(2)*	7.4607D+11	7.2433D+11
59.407	3(15)*	1.712D-12	3(2)	9.1754D+10	1.4416D+10
59.445	2(6)	2.056D-12	2(2)*	3.2455D+11	2.1659D+11
59.509	3(23)	1.178D-12	2(9)*	1.0751D+11	1.3616D+10
59.536	1(24)	6.574D-13	0(4)*	8.7851D+11	5.0738D+11
59.639	1(13)	1.311D-12	2(5)*	4.3601D+11	2.4926D+11
59.668	1(25)	4.773D-13	1(9)*	1.1024D+12	5.8008D+11
59.846	5(6)	1.694D-12	4(4)*	2.4455D+11	1.0134D+11
59.860	2(24)	1.863D-12	2(7)*	1.2612D+11	2.9640D+10
59.900	5(3)*	1.964D-12	4(2)	7.5758D+10	1.1271D+10
59.919	5(4)*	1.049D-12	4(3)	3.4613D+11	1.2569D+11
59.935	4(9)	1.296D-12	4(2)*	8.7892D+10	1.0013D+10
59.967	0(11)	3.545D-13	1(6)*	2.0516D+11	1.4923D+10
59.999	2(25)	9.659D-13	3(6)*	1.0828D+11	1.1325D+10
60.006	4(11)	1.156D-12	3(5)*	3.1177D+11	1.1241D+11
60.034	2(26)	7.868D-13	3(6)*	1.6846D+11	2.2330D+10
60.078	2(17)*	1.490D-12	1(3)	3.6681D+11	2.0047D+11
60.079	2(23)	3.638D-13	1(7)*	2.5458D+11	2.3577D+10
60.111	3(20)	7.611D-13	3(6)*	1.6488D+11	2.0689D+10
60.166	3(19)	1.057D-12	3(6)*	1.3308D+11	1.8719D+10
60.186	2(12)	8.207D-13	1(3)*	7.0236D+11	4.0488D+11
60.257	3(6)	9.833D-13	2(3)*	5.9756D+11	3.5113D+11
60.277	3(12)	1.292D-12	2(5)*	3.7045D+11	1.7730D+11

Continued...

Table 16 (contd)

λ	Upper	τ	Lower	A	A_{br}
60.279	2(20)*	8.536D-13	1(4)	2.1825D+11	4.0660D+10
60.293	5(6)	1.694D-12	5(1)*	2.3566D+11	9.4105D+10
60.354	1(2)*	2.898D-12	0(1)	2.5264D+11	1.8495D+11
60.376	2(4)	4.581D-12	2(1)*	6.6183D+10	2.0067D+10
60.390	2(18)	9.917D-13	2(5)*	2.0315D+11	4.0924D+10
60.407	0(11)	3.545D-13	1(7)*	4.0640D+11	5.8553D+10
60.494	2(27)	5.635D-13	3(7)*	1.9281D+11	2.0949D+10
60.495	1(18)	1.279D-12	2(7)*	2.3409D+11	7.0113D+10
60.626	1(16)	3.890D-13	1(6)*	1.7507D+11	1.1922D+10
60.696	1(7)	1.013D-12	1(3)*	3.0253D+11	9.2717D+10
60.734	5(5)	1.441D-12	4(3)*	2.8475D+11	1.1687D+11
60.736	3(15)	2.302D-12	4(3)*	6.6903D+10	1.0302D+10
60.795	4(10)*	1.262D-12	3(2)	2.4749D+11	7.7312D+10
60.825	2(24)	1.863D-12	3(6)*	8.8378D+10	1.4554D+10
60.844	1(17)*	1.715D-12	1(4)	1.3746D+11	3.2398D+10
60.957	4(9)*	1.861D-12	3(2)	3.0229D+11	1.7004D+11
61.046	1(2)	4.935D-12	1(1)*	8.5618D+10	3.6175D+10
61.074	1(2)	4.935D-12	0(1)*	8.3080D+10	3.4062D+10
61.075	1(16)	3.890D-13	1(7)*	1.7398D+11	1.1774D+10
61.193	0(5)	1.656D-12	1(2)*	2.7505D+11	1.2530D+11
61.224	5(3)*	1.964D-12	4(3)	1.7778D+11	6.2070D+10
61.231	4(1)	3.548D-12	3(1)*	2.4033D+11	2.0492D+11
61.264	2(19)*	1.602D-12	1(5)	9.5242D+10	1.4534D+10
61.272	2(27)	5.635D-13	2(9)*	1.5580D+11	1.3677D+10
61.305	3(20)	7.611D-13	2(8)*	2.3893D+11	4.3449D+10
61.306	3(13)*	1.885D-12	2(5)	1.9546D+11	7.2027D+10
61.377	2(4)	4.581D-12	1(1)*	1.1267D+11	5.8161D+10
61.505	2(15)*	2.268D-12	2(5)	9.3337D+10	1.9755D+10
61.696	3(1)	4.639D-12	2(1)*	1.6382D+11	1.2449D+11
61.849	3(22)	3.603D-13	2(9)*	2.3105D+11	1.9235D+10
61.891	2(19)*	1.602D-12	2(7)	1.6850D+11	4.5490D+10
61.927	4(16)	9.719D-13	3(7)*	3.4637D+11	1.1660D+11
61.939	6(2)	4.145D-12	5(1)*	2.4125D+11	2.4125D+11
62.151	4(15)	9.822D-13	3(7)*	2.5549D+11	6.4115D+10
62.333	1(17)*	1.715D-12	2(7)	1.1674D+11	2.3368D+10
62.371	0(7)	3.261D-12	1(4)*	7.3169D+10	1.7456D+10

Continued...

Table 16 (contd)

λ	Upper	τ	Lower	A	A_{br}
62.434	2(18)*	1.406D-12	1(4)	1.1944D+11	2.0058D+10
62.494	2(2)*	1.147D-11	2(1)	8.6709D+10	8.6223D+10
62.512	4(8)*	2.725D-12	4(3)	7.6767D+10	1.6056D+10
62.776	1(6)	1.802D-12	2(3)*	7.4651D+10	1.0040D+10
62.934	0(3)*	2.926D-11	1(1)	3.4173D+10	3.4173D+10
63.170	4(8)	4.202D-12	4(2)*	9.1521D+10	3.5192D+10
63.720	3(19)	1.057D-12	2(9)*	1.3521D+11	1.9321D+10
64.598	2(6)	2.056D-12	1(2)*	1.0547D+11	2.2875D+10
64.891	4(3)	2.228D-12	3(2)*	1.4335D+11	4.5792D+10
65.011	0(7)*	3.813D-12	1(4)	9.6626D+10	3.5601D+10
66.449	4(2)	3.831D-12	3(2)*	1.0591D+11	4.2979D+10
70.140	0(3)	1.978D-11	1(1)*	5.0371D+10	5.0182D+10
70.807	2(13)*	1.105D-11	3(2)	3.4424D+10	1.3095D+10
72.378	1(1)*	4.161D-11	2(1)	1.8347D+10	1.4005D+10
73.821	2(1)*	8.344D-11	2(1)	1.1974D+10	1.1964D+10
75.736	0(6)*	7.753D-12	1(3)	6.3425D+10	3.1189D+10
75.873	0(2)*	6.000D-11	1(1)	1.6668D+10	1.6668D+10

Table 17Energy levels (cm^{-1}) and lifetimes (s) in Pt^{43+} (Br-like).

Occ	$J(\text{No})^P$	E	τ
4622300	3/2(1)*	0	0.000D+00
4621400	1/2(1)*	991144	5.540D-08
4622210	3/2(1)	1327682	3.083D-10
4622210	1/2(1)	1350582	5.086D-11
4622210	5/2(1)	1350664	3.976D-10
4622210	7/2(1)	1369586	5.361D-03
4622210	3/2(2)	1440168	1.424D-09
4622201	7/2(2)	1546557	1.000D-05
4622201	9/2(1)	1554446	1.372D-05
4622201	1/2(2)	1569070	3.073D-11
4622201	5/2(2)	1666602	8.060D-10
4622201	3/2(3)	1703580	1.955D-12
4622201	5/2(3)	1729653	1.406D-12
4612400	1/2(3)	1960895	1.092D-12
4621310	1/2(4)	2271338	7.206D-11
4621310	3/2(4)	2315512	3.706D-10
4621310	5/2(4)	2350742	2.013D-11
4621310	7/2(3)	2359523	1.084D-07
4621310	5/2(5)	2501236	3.895D-13
4621310	3/2(5)	2508493	5.080D-13
4621310	1/2(5)	2510809	2.988D-13
4621301	7/2(4)	2513092	5.584D-08
4621301	3/2(6)	2543588	2.123D-12
4621301	9/2(2)	2564238	1.042D-07
4621301	5/2(6)	2565589	2.317D-09
4621301	5/2(7)	2591259	2.004D-11
4621301	7/2(5)	2624842	8.801D-08
4622120	3/2(2)*	2701087	3.920D-11
4622120	1/2(2)*	2720530	1.878D-11
4622120	5/2(1)*	2724982	3.933D-11
4622120	7/2(1)*	2737231	9.734D-11
4621301	3/2(7)	2742765	1.066D-12
4621301	1/2(6)	2786492	6.665D-13
4622120	3/2(3)*	2800805	4.862D-11
4622111	9/2(1)*	2914458	5.360D-11

Continued...

Table 17 (contd)

Occ	J(No) ^P	E	τ
4622111	7/2(2)*	2923370	2.295D-11
4622111	1/2(3)*	2942618	1.136D-11
4622111	3/2(4)*	2943902	8.467D-12
4622111	5/2(3)*	2956397	6.193D-12
4622111	5/2(2)*	2958400	6.648D-11
4622111	11/2(1)*	2973846	7.257D-10
4622111	7/2(3)*	2979339	1.010D-11
4622111	7/2(4)*	3031867	1.746D-12
4622111	9/2(2)*	3043511	1.405D-12
4622111	5/2(4)*	3044512	2.004D-12
4622111	3/2(5)*	3059042	2.126D-12
4622111	3/2(6)*	3086025	1.768D-12
4622111	5/2(5)*	3094819	1.960D-12
4622111	1/2(4)*	3105901	2.248D-12
4622102	5/2(6)*	3162387	4.683D-12
4622102	11/2(2)*	3177365	4.150D-12
4612310	1/2(5)*	3189115	2.292D-12
4622102	7/2(5)*	3197793	5.013D-12
4622102	9/2(3)*	3218345	1.893D-12
4612310	7/2(6)*	3233284	1.796D-12
4612310	3/2(7)*	3241062	1.564D-12
4612310	5/2(7)*	3246928	1.315D-12
4622102	1/2(6)*	3273056	1.447D-12
4612310	3/2(9)*	3308134	1.302D-12
4622102	3/2(8)*	3327281	3.144D-12
4622102	5/2(8)*	3332644	1.610D-12
4622102	7/2(7)*	3339302	9.843D-13
4612310	1/2(7)*	3343621	1.009D-12
4612310	5/2(9)*	3346229	9.478D-13
4622102	3/2(10)*	3405047	8.271D-13
4612301	9/2(4)*	3407510	1.896D-12
4620410	3/2(8)	3473473	4.850D-13
4612301	7/2(8)*	3491365	1.717D-12
4612301	5/2(10)*	3502743	1.273D-12
4612301	3/2(11)*	3536947	1.424D-12
4612301	7/2(9)*	3556693	1.192D-12

Continued...

Table 17 (contd)

Occ	J(No) ^P	E	τ
4620401	5/2(8)	3595354	1.002D-09
4612301	5/2(11)*	3597077	1.318D-12
4612301	1/2(9)*	3637744	8.192D-13
4612301	3/2(13)*	3655808	7.255D-13
4621220	1/2(8)*	3765848	6.419D-13
4621220	3/2(12)*	3768996	9.535D-13
4621220	5/2(12)*	3780322	1.090D-12
4621220	7/2(10)*	3801059	1.108D-12
4621220	3/2(14)*	3821750	8.475D-13
4621220	9/2(5)*	3831586	1.470D-12
4621211	7/2(11)*	3845795	5.659D-12
4621211	5/2(14)*	3845822	5.661D-12
4621220	3/2(15)*	3846143	7.947D-13
4621211	9/2(6)*	3851762	1.578D-11
4621211	5/2(15)*	3861036	1.303D-11
4621220	5/2(16)*	3870150	5.894D-13
4621220	1/2(10)*	3871443	2.528D-13
4621211	7/2(12)*	3873026	1.551D-11
4621220	5/2(13)*	3874166	1.010D-12
4621211	11/2(3)*	3890306	9.336D-11
4621211	9/2(7)*	3890863	9.247D-12
4621220	3/2(17)*	3892730	2.491D-13
4621211	3/2(16)*	3900176	5.964D-12
4621220	7/2(13)*	3902795	2.500D-13
4621220	5/2(18)*	3905652	2.537D-13
4621211	5/2(17)*	3907164	1.500D-12
4621211	11/2(4)*	3927010	5.533D-11
4621220	1/2(11)*	3943288	4.208D-13
4621211	7/2(14)*	3981453	8.324D-12
4621211	3/2(18)*	3988911	6.234D-13
4621211	5/2(19)*	3994205	4.511D-12
4621220	3/2(19)*	3996006	3.379D-13
4621211	1/2(12)*	4018479	1.151D-11
4621211	3/2(20)*	4027176	9.045D-13
4621211	9/2(8)*	4034352	9.812D-13
4621211	5/2(20)*	4035977	1.137D-12

Continued...

Table 17 (contd)

Occ	J(No) ^P	E	τ
4621211	1/2(13)*	4036382	8.376D-13
4621202	11/2(5)*	4036995	1.343D-12
4621211	7/2(15)*	4038211	4.816D-13
4621211	9/2(10)*	4057733	4.629D-13
4621211	5/2(21)*	4058055	3.347D-13
4621211	1/2(14)*	4061801	3.765D-13
4621211	9/2(9)*	4064834	5.676D-13
4621202	7/2(16)*	4067083	2.292D-12
4621211	7/2(18)*	4073934	3.532D-13
4621211	7/2(19)*	4074927	8.623D-13
4621211	9/2(11)*	4077672	9.550D-13
4621211	7/2(17)*	4078314	6.446D-13
4621202	3/2(21)*	4088678	7.005D-13
4621211	1/2(15)*	4097942	5.950D-13
4621211	11/2(6)*	4109040	7.623D-13
4621202	3/2(22)*	4109553	7.289D-13
4621211	5/2(22)*	4115271	7.991D-13
4621211	3/2(23)*	4115605	6.927D-13
4621202	5/2(23)*	4124587	1.690D-12
4621202	9/2(12)*	4129032	4.844D-12
4621211	5/2(24)*	4147069	5.406D-13
4621202	9/2(13)*	4175839	1.441D-12
4621211	5/2(25)*	4179327	5.484D-13
4621211	3/2(24)*	4182587	3.971D-13
4621202	7/2(21)*	4185730	2.160D-12
4621211	7/2(20)*	4188201	5.255D-13
4621211	1/2(16)*	4191965	2.912D-13
4621202	11/2(7)*	4211647	2.133D-12
4621211	3/2(26)*	4213008	2.969D-13
4621211	5/2(26)*	4214290	3.207D-13
4621211	5/2(27)*	4229043	3.479D-13
4621202	7/2(23)*	4235403	4.328D-13
4621202	3/2(25)*	4245524	2.775D-12
4621202	7/2(22)*	4247144	1.138D-12
4621211	3/2(28)*	4255809	2.525D-13
4611410	3/2(27)*	4266654	6.954D-13

Continued...

Table 17 (contd)

Occ	J(No) ^P	E	τ
4621202	9/2(14)*	4267658	3.930D-12
4621202	1/2(17)*	4278685	9.746D-13
4621202	5/2(28)*	4284135	2.628D-11
4611410	3/2(29)*	4295842	7.083D-13
4621202	7/2(24)*	4311392	4.288D-13
4621202	9/2(15)*	4318229	8.537D-13
4621202	5/2(29)*	4324812	8.646D-13
4621202	3/2(30)*	4329238	7.235D-13
4621202	5/2(30)*	4349027	6.534D-13
4621202	1/2(18)*	4350977	1.534D-11
4611410	5/2(31)*	4355922	5.649D-13
4621202	7/2(25)*	4360730	8.107D-13
4621202	3/2(31)*	4390647	4.991D-13
4611410	1/2(19)*	4394804	3.083D-13
4621202	5/2(32)*	4400072	6.193D-13
4611410	3/2(32)*	4450268	3.111D-13
4611401	5/2(33)*	4450316	8.442D-13
4612220	1/2(7)	4464211	3.945D-12
4612220	3/2(9)	4502862	3.551D-12
4621202	1/2(20)*	4512975	3.872D-13
4612220	5/2(9)	4521581	3.600D-12
4612220	7/2(6)	4530528	3.956D-12
4611401	7/2(26)*	4542533	6.346D-13
4612220	9/2(3)	4569192	3.873D-12
4611401	5/2(34)*	4581127	6.784D-13
4612220	5/2(10)	4590416	3.292D-12
4611401	3/2(33)*	4593193	5.416D-13
4612220	3/2(10)	4622224	1.285D-12
4612220	1/2(8)	4633331	8.635D-13
4612220	3/2(11)	4673898	1.035D-12
4612211	9/2(4)	4678797	4.079D-12
4612220	5/2(12)	4683982	1.243D-12
4612211	11/2(1)	4690844	4.019D-12
4612220	5/2(11)	4692865	1.397D-12
4612211	7/2(8)	4697533	2.408D-12
4612211	7/2(7)	4697995	1.577D-12

Continued...

Table 17 (contd)

Occ	J(No) ^P	E	τ
4612220	5/2(13)	4711175	1.237D-12
4612220	7/2(9)	4716799	1.282D-12
4612220	1/2(9)	4753427	1.181D-12
4612211	9/2(5)	4762505	3.443D-12
4612220	3/2(12)	4768459	8.174D-13
4612211	11/2(2)	4792730	3.673D-12
4612211	3/2(13)	4794456	1.391D-12
4612211	1/2(10)	4811651	1.084D-12
4612211	3/2(14)	4831228	1.539D-12
4612211	5/2(14)	4837557	1.470D-12
4612211	7/2(11)	4844665	9.234D-13
4612211	7/2(10)	4846640	1.714D-12
4612211	5/2(15)	4857995	1.477D-12
4612211	9/2(6)	4863800	1.574D-12
4612211	3/2(15)	4867964	1.200D-12
4612211	5/2(16)	4874960	1.078D-12
4612211	1/2(11)	4883829	1.212D-12
4612211	3/2(16)	4884520	1.159D-12
4612211	11/2(3)	4898183	1.002D-12
4612211	5/2(17)	4898256	9.989D-13
4612211	9/2(7)	4901276	1.177D-12

Table 18Transitions in Pt⁴³⁺ (Br-like).

λ	Upper	τ	Lower	A	A_{br}
37.557	3/2(30)*	7.235D-13	5/2(2)	1.5678D+11	1.7783D+10
37.990	3/2(33)*	5.417D-13	1/2(3)	1.6056D+11	1.3965D+10
38.033	9/2(13)*	1.441D-12	7/2(2)	9.0847D+10	1.1891D+10
38.077	5/2(31)*	5.650D-13	5/2(3)	1.5300D+11	1.3225D+10
38.150	5/2(29)*	8.646D-13	3/2(3)	1.8365D+11	2.9160D+10
38.232	1/2(11)*	4.208D-13	3/2(1)	2.5075D+11	2.6460D+10
38.518	1/2(13)*	8.376D-13	3/2(2)	2.1134D+11	3.7412D+10
38.570	1/2(11)*	4.208D-13	1/2(1)	2.6439D+11	2.9418D+10
38.591	5/2(7)	2.005D-11	3/2(1)*	4.9877D+10	4.9877D+10
38.734	7/2(24)*	4.288D-13	5/2(3)	6.6572D+11	1.9003D+11
38.752	7/2(22)*	1.138D-12	5/2(2)	2.9697D+11	1.0034D+11
38.767	5/2(17)*	1.500D-12	3/2(1)	1.9382D+11	5.6354D+10
38.790	5/2(18)*	2.537D-13	3/2(1)	6.7009D+11	1.1390D+11
38.833	1/2(17)*	9.747D-13	3/2(3)	1.6857D+11	2.7697D+10
38.841	9/2(12)*	4.845D-12	9/2(1)	1.0080D+11	4.9220D+10
38.930	5/2(22)*	7.991D-13	7/2(2)	1.5801D+11	1.9951D+10
38.968	3/2(29)*	7.083D-13	5/2(3)	2.1269D+11	3.2040D+10
39.116	5/2(17)*	1.500D-12	5/2(1)	3.4029D+11	1.7371D+11
39.126	3/2(19)*	3.379D-13	3/2(2)	2.7207D+12	2.5014D+12
39.139	5/2(18)*	2.537D-13	5/2(1)	6.5043D+11	1.0731D+11
39.145	11/2(6)*	7.623D-13	9/2(1)	1.3099D+12	1.3079D+12
39.181	3/2(28)*	2.525D-13	3/2(3)	5.3984D+11	7.3575D+10
39.183	7/2(13)*	2.500D-13	5/2(1)	7.1802D+11	1.2891D+11
39.235	3/2(18)*	6.234D-13	3/2(2)	1.2754D+12	1.0139D+12
39.270	5/2(13)*	1.010D-12	3/2(1)	1.6024D+11	2.5931D+10
39.312	1/2(10)*	2.528D-13	3/2(1)	3.2280D+12	2.6338D+12
39.315	3/2(6)	2.123D-12	3/2(1)*	4.6859D+11	4.6623D+11
39.332	5/2(16)*	5.894D-13	3/2(1)	2.3540D+11	3.2658D+10
39.337	3/2(17)*	2.491D-13	1/2(1)	1.3855D+12	4.7824D+11
39.338	3/2(17)*	2.491D-13	5/2(1)	2.3466D+12	1.3719D+12
39.340	3/2(25)*	2.775D-12	3/2(3)	1.5742D+11	6.8755D+10
39.363	3/2(22)*	7.290D-13	1/2(2)	9.4653D+11	6.5310D+11
39.417	3/2(27)*	6.954D-13	5/2(3)	3.4789D+11	8.4160D+10
39.431	5/2(18)*	2.537D-13	7/2(1)	2.4260D+12	1.4930D+12
39.476	7/2(13)*	2.500D-13	7/2(1)	3.2655D+12	2.6663D+12

Continued..

Table 18 (contd)

λ	Upper	τ	Lower	A	A_{br}
39.498	7/2(17)*	6.446D-13	7/2(2)	8.7303D+11	4.9128D+11
39.586	3/2(28)*	2.525D-13	5/2(3)	2.2714D+12	1.3026D+12
39.597	5/2(27)*	3.480D-13	3/2(3)	3.4059D+11	4.0363D+10
39.622	7/2(17)*	6.446D-13	9/2(1)	2.8864D+11	5.3700D+10
39.657	7/2(20)*	5.255D-13	5/2(2)	1.8358D+12	1.7710D+12
39.669	1/2(10)*	2.528D-13	1/2(1)	5.7292D+11	8.2970D+10
39.689	3/2(21)*	7.005D-13	1/2(2)	1.3231D+12	1.2264D+12
39.691	7/2(18)*	3.532D-13	9/2(1)	2.6329D+12	2.4487D+12
39.691	5/2(16)*	5.894D-13	5/2(1)	7.5489D+11	3.3585D+11
39.707	3/2(15)*	7.948D-13	3/2(1)	3.1290D+11	7.7810D+10
39.710	9/2(9)*	5.676D-13	7/2(2)	1.5528D+12	1.3687D+12
39.746	3/2(24)*	3.971D-13	5/2(2)	2.4695D+12	2.4215D+12
39.748	3/2(25)*	2.775D-12	5/2(3)	1.0135D+11	2.8502D+10
39.797	5/2(25)*	5.484D-13	5/2(2)	1.5539D+12	1.3242D+12
39.799	7/2(16)*	2.292D-12	9/2(1)	7.5428D+10	1.3038D+10
39.817	5/2(21)*	3.347D-13	7/2(2)	2.8917D+12	2.7987D+12
39.828	1/2(5)	2.988D-13	3/2(1)*	3.3413D+12	3.3358D+12
39.829	5/2(26)*	3.207D-13	3/2(3)	1.4513D+12	6.7545D+11
39.834	9/2(9)*	5.676D-13	9/2(1)	1.8224D+11	1.8852D+10
39.850	3/2(26)*	2.969D-13	3/2(3)	1.9247D+12	1.1000D+12
39.865	3/2(5)	5.080D-13	3/2(1)*	1.9684D+12	1.9684D+12
39.908	7/2(23)*	4.328D-13	5/2(3)	1.2137D+12	6.3755D+11
39.947	9/2(10)*	4.629D-13	9/2(1)	2.1386D+12	2.1170D+12
39.950	1/2(11)*	4.208D-13	3/2(2)	1.8073D+12	1.3745D+12
39.980	5/2(5)	3.895D-13	3/2(1)*	2.5677D+12	2.5677D+12
39.991	5/2(16)*	5.894D-13	7/2(1)	6.2118D+11	2.2742D+11
40.010	5/2(27)*	3.480D-13	5/2(3)	1.4365D+12	7.1804D+11
40.071	3/2(15)*	7.948D-13	1/2(1)	1.8105D+11	2.6052D+10
40.072	3/2(15)*	7.948D-13	5/2(1)	6.8993D+11	3.7830D+11
40.078	5/2(14)*	5.661D-12	5/2(1)	8.8542D+10	4.4380D+10
40.095	3/2(14)*	8.476D-13	3/2(1)	4.5425D+11	1.7489D+11
40.117	1/2(14)*	3.765D-13	1/2(2)	2.4880D+12	2.3306D+12
40.134	7/2(15)*	4.816D-13	7/2(2)	1.8613D+12	1.6686D+12
40.171	3/2(32)*	3.111D-13	1/2(3)	1.4587D+12	6.6207D+11
40.187	1/2(16)*	2.912D-13	3/2(3)	2.8398D+12	2.3484D+12
40.196	9/2(8)*	9.812D-13	7/2(2)	5.1294D+11	2.5816D+11

Continued...

Table 18 (contd)

λ	Upper	τ	Lower	A	A_{br}
40.247	5/2(26)*	3.207D-13	5/2(3)	8.8436D+11	2.5079D+11
40.268	3/2(26)*	2.969D-13	5/2(3)	6.0714D+11	1.0945D+11
40.281	11/2(5)*	1.343D-12	9/2(1)	7.4416D+11	7.4364D+11
40.285	3/2(8)	4.850D-13	1/2(1)*	2.0618D+12	2.0618D+12
40.315	5/2(24)*	5.406D-13	5/2(2)	1.6002D+12	1.3843D+12
40.324	9/2(8)*	9.812D-13	9/2(1)	5.0056D+11	2.4585D+11
40.467	3/2(14)*	8.476D-13	1/2(1)	4.2670D+11	1.5431D+11
40.468	3/2(14)*	8.476D-13	5/2(1)	2.7985D+11	6.6375D+10
40.617	9/2(5)*	1.470D-12	7/2(1)	6.7827D+11	6.7633D+11
40.682	3/2(20)*	9.045D-13	1/2(2)	2.4861D+11	5.5907D+10
40.772	5/2(12)*	1.090D-12	3/2(1)	6.1908D+11	4.1766D+11
40.810	7/2(10)*	1.108D-12	5/2(1)	7.9349D+11	6.9789D+11
40.826	1/2(12)*	1.152D-11	1/2(2)	5.1731D+10	3.0817D+10
40.962	3/2(12)*	9.535D-13	3/2(1)	5.9169D+11	3.3382D+11
41.014	1/2(8)*	6.419D-13	3/2(1)	4.0920D+11	1.0749D+11
41.070	7/2(14)*	8.324D-12	7/2(2)	3.9597D+10	1.3052D+10
41.085	5/2(13)*	1.010D-12	3/2(2)	6.9530D+11	4.8821D+11
41.086	1/2(19)*	3.083D-13	1/2(3)	1.5585D+12	7.4876D+11
41.156	3/2(31)*	4.991D-13	1/2(3)	3.6654D+11	6.7053D+10
41.158	5/2(12)*	1.090D-12	5/2(1)	2.5548D+11	7.1129D+10
41.203	7/2(14)*	8.324D-12	9/2(1)	4.8417D+10	1.9514D+10
41.305	5/2(23)*	1.690D-12	3/2(3)	1.0242D+11	1.7724D+10
41.349	3/2(12)*	9.535D-13	1/2(1)	3.4943D+11	1.1642D+11
41.403	1/2(8)*	6.419D-13	1/2(1)	1.0458D+12	7.0204D+11
41.465	5/2(22)*	7.991D-13	3/2(3)	1.2532D+11	1.2550D+10
41.563	3/2(22)*	7.290D-13	3/2(3)	1.4067D+11	1.4425D+10
42.148	11/2(4)*	5.535D-11	9/2(1)	1.6887D+10	1.5784D+10
42.540	5/2(4)	2.014D-11	3/2(1)*	4.9657D+10	4.9657D+10
42.657	9/2(7)*	9.247D-12	7/2(2)	3.4656D+10	1.1106D+10
42.801	9/2(7)*	9.247D-12	9/2(1)	6.6580D+10	4.0992D+10
42.963	5/2(19)*	4.511D-12	5/2(2)	8.5727D+10	3.3152D+10
43.529	9/2(6)*	1.578D-11	9/2(1)	4.6654D+10	3.4344D+10
43.642	7/2(11)*	5.660D-12	9/2(1)	7.7830D+10	3.4284D+10
47.093	1/2(19)*	3.083D-13	1/2(4)	2.0581D+11	1.3056D+10
47.381	1/2(10)	1.085D-12	3/2(2)*	1.4743D+11	2.3575D+10
48.936	3/2(12)	8.176D-13	5/2(1)*	2.1730D+11	3.8606D+10

Continued...

Table 18 (contd)

λ	Upper	τ	Lower	A	A_{br}
49.006	5/2(32)*	6.194D-13	7/2(3)	2.1448D+11	2.8491D+10
49.395	3/2(29)*	7.083D-13	1/2(4)	2.1752D+11	3.3512D+10
49.541	5/2(9)*	9.478D-13	3/2(1)	1.4704D+11	2.0494D+10
49.605	1/2(7)*	1.009D-12	3/2(1)	3.0699D+11	9.5140D+10
49.748	7/2(9)*	1.193D-12	7/2(2)	9.4873D+10	1.0735D+10
49.749	5/2(13)	1.237D-12	3/2(2)*	1.7536D+11	3.8047D+10
49.944	7/2(9)*	1.193D-12	9/2(1)	2.5967D+11	8.0414D+10
49.952	3/2(33)*	5.417D-13	5/2(7)	3.1149D+11	5.2563D+10
50.090	5/2(31)*	5.650D-13	7/2(3)	7.5625D+11	3.2311D+11
50.117	3/2(27)*	6.954D-13	1/2(4)	1.8307D+11	2.3306D+10
50.159	3/2(13)	1.392D-12	3/2(3)*	2.1117D+11	6.2060D+10
50.175	1/2(7)*	1.009D-12	1/2(1)	3.5610D+11	1.2801D+11
50.205	7/2(9)	1.282D-12	5/2(1)*	9.6986D+10	1.2062D+10
50.255	5/2(34)*	6.786D-13	5/2(7)	1.9696D+11	2.6324D+10
50.264	5/2(30)*	6.534D-13	7/2(3)	3.5314D+11	8.1486D+10
50.332	9/2(7)	1.178D-12	9/2(1)*	4.4927D+11	2.3774D+11
50.348	5/2(13)	1.237D-12	5/2(1)*	1.9943D+11	4.9209D+10
50.431	5/2(12)	1.243D-12	3/2(2)*	2.7159D+11	9.1683D+10
50.494	3/2(9)*	1.302D-12	3/2(1)	1.4912D+11	2.8962D+10
50.497	3/2(29)*	7.083D-13	3/2(4)	1.4209D+11	1.4299D+10
50.516	7/2(9)	1.282D-12	7/2(1)*	5.0367D+11	3.2531D+11
50.549	7/2(26)*	6.346D-13	9/2(2)	1.1769D+12	8.7904D+11
50.591	5/2(9)*	9.478D-13	7/2(1)	3.8773D+11	1.4249D+11
50.636	5/2(17)	9.993D-13	7/2(2)*	2.2398D+11	5.0128D+10
50.660	5/2(13)	1.237D-12	7/2(1)*	2.4888D+11	7.6644D+10
50.684	7/2(7)	1.577D-12	5/2(1)*	1.2454D+11	2.4456D+10
50.689	3/2(11)	1.035D-12	3/2(2)*	1.0383D+11	1.1156D+10
50.816	3/2(11)*	1.424D-12	1/2(2)	1.7584D+11	4.4039D+10
50.822	3/2(12)	8.176D-13	3/2(3)*	7.6548D+11	4.7906D+11
50.941	5/2(8)*	1.610D-12	7/2(1)	8.1584D+10	1.0717D+10
50.997	1/2(3)	1.092D-12	3/2(1)*	8.8234D+11	8.5012D+11
51.001	7/2(7)	1.577D-12	7/2(1)*	3.2246D+11	1.6396D+11
51.013	7/2(8)	2.408D-12	7/2(1)*	1.1802D+11	3.3547D+10
51.046	5/2(12)	1.243D-12	5/2(1)*	3.8045D+11	1.7990D+11
51.086	3/2(9)*	1.302D-12	5/2(1)	1.5069D+11	2.9574D+10
51.117	5/2(34)*	6.786D-13	7/2(5)	6.4939D+11	2.8615D+11

Continued...

Table 18 (contd)

λ	Upper	τ	Lower	A	A_{br}
51.120	5/2(10)*	1.273D-12	7/2(2)	3.7463D+11	1.7867D+11
51.134	5/2(11)	1.397D-12	7/2(1)*	5.5301D+11	4.2734D+11
51.194	3/2(11)	1.035D-12	1/2(2)*	4.8839D+11	2.4683D+11
51.213	1/2(9)	1.181D-12	3/2(3)*	6.6916D+11	5.2875D+11
51.240	5/2(16)	1.078D-12	7/2(2)*	3.5315D+11	1.3450D+11
51.308	3/2(32)*	3.111D-13	5/2(5)	4.8283D+11	7.2534D+10
51.311	3/2(11)	1.035D-12	5/2(1)*	2.1459D+11	4.7652D+10
51.411	3/2(29)*	7.083D-13	5/2(4)	2.0627D+11	3.0136D+10
51.535	9/2(6)	1.575D-12	7/2(2)*	1.2803D+11	2.5815D+10
51.620	5/2(33)*	8.442D-13	7/2(4)	3.8798D+11	1.2708D+11
51.628	7/2(8)*	1.717D-12	9/2(1)	2.5019D+11	1.0746D+11
51.702	1/2(9)*	8.194D-13	3/2(3)	2.6836D+11	5.9013D+10
51.753	1/2(8)	8.636D-13	3/2(2)*	7.9684D+11	5.4834D+11
51.755	7/2(10)	1.715D-12	9/2(1)*	2.0931D+11	7.5127D+10
51.785	5/2(16)	1.078D-12	3/2(4)*	1.3618D+11	2.0001D+10
51.801	5/2(11)*	1.319D-12	5/2(2)	4.4935D+11	2.6631D+11
51.808	7/2(11)	9.237D-13	9/2(1)*	5.6720D+11	2.9719D+11
51.883	9/2(7)	1.178D-12	11/2(1)*	1.3072D+11	2.0127D+10
51.917	3/2(13)*	7.255D-13	5/2(3)	5.8786D+11	2.5073D+11
51.939	3/2(15)	1.200D-12	1/2(3)*	2.6184D+11	8.2304D+10
51.966	11/2(3)	1.002D-12	11/2(1)*	5.9808D+11	3.5846D+11
52.053	3/2(10)	1.285D-12	3/2(2)*	2.1578D+11	5.9836D+10
52.104	5/2(7)*	1.315D-12	3/2(1)	1.8661D+11	4.5793D+10
52.146	7/2(26)*	6.346D-13	7/2(5)	3.4574D+11	7.5858D+10
52.194	3/2(27)*	6.954D-13	5/2(4)	2.7045D+11	5.0860D+10
52.241	5/2(14)	1.470D-12	7/2(2)*	1.3262D+11	2.5860D+10
52.244	5/2(15)	1.477D-12	3/2(4)*	1.4200D+11	2.9790D+10
52.264	3/2(7)*	1.564D-12	3/2(1)	2.9693D+11	1.3785D+11
52.279	1/2(8)	8.636D-13	1/2(2)*	2.3895D+11	4.9310D+10
52.313	3/2(15)	1.200D-12	5/2(3)*	1.7368D+11	3.6211D+10
52.447	3/2(32)*	3.111D-13	3/2(6)	2.7049D+11	2.2764D+10
52.464	5/2(9)*	9.478D-13	3/2(2)	3.5556D+11	1.1983D+11
52.536	1/2(7)*	1.009D-12	3/2(2)	2.7471D+11	7.6183D+10
52.708	3/2(10)	1.285D-12	5/2(1)*	4.4198D+11	2.5104D+11
52.735	5/2(7)*	1.315D-12	5/2(1)	4.7749D+11	2.9982D+11
52.812	5/2(11)*	1.319D-12	3/2(3)	1.6061D+11	3.4021D+10

Continued...

Table 18 (contd)

λ	Upper	τ	Lower	A	A_{br}
52.899	3/2(7)*	1.564D-12	5/2(1)	2.4673D+11	9.5180D+10
52.903	7/2(10)	1.715D-12	5/2(3)*	1.4280D+11	3.4966D+10
52.927	3/2(31)*	4.991D-13	5/2(5)	2.5363D+11	3.2105D+10
52.959	7/2(11)	9.237D-13	5/2(3)*	2.5719D+11	6.1103D+10
52.985	3/2(14)	1.540D-12	3/2(4)*	1.4118D+11	3.0688D+10
53.014	1/2(19)*	3.083D-13	3/2(5)	3.8352D+11	4.5339D+10
53.066	9/2(6)	1.575D-12	7/2(3)*	3.5178D+11	1.9488D+11
53.079	1/2(19)*	3.083D-13	1/2(5)	6.3439D+11	1.2406D+11
53.117	7/2(6)*	1.797D-12	5/2(1)	1.6079D+11	4.6444D+10
53.159	5/2(14)	1.470D-12	5/2(3)*	1.3267D+11	2.5879D+10
53.230	5/2(15)	1.477D-12	7/2(3)*	2.3151D+11	7.9187D+10
53.338	3/2(14)	1.540D-12	5/2(3)*	1.7656D+11	4.7998D+10
53.466	3/2(11)*	1.424D-12	5/2(2)	2.2685D+11	7.3300D+10
53.493	9/2(7)	1.178D-12	7/2(4)*	9.5230D+10	1.0682D+10
53.504	1/2(10)	1.085D-12	1/2(3)*	2.0996D+11	4.7811D+10
53.534	3/2(9)*	1.302D-12	3/2(2)	2.5187D+11	8.2619D+10
53.540	1/2(10)	1.085D-12	3/2(4)*	3.1525D+11	1.0779D+11
53.657	7/2(6)*	1.797D-12	7/2(1)	3.3091D+11	1.9672D+11
53.722	1/2(5)*	2.292D-12	3/2(1)	2.4954D+11	1.4271D+11
53.791	5/2(33)*	8.442D-13	5/2(7)	3.4405D+11	9.9931D+10
53.918	11/2(3)	1.002D-12	9/2(2)*	3.0892D+11	9.5635D+10
53.965	9/2(4)*	1.896D-12	9/2(1)	4.7848D+11	4.3414D+11
54.019	1/2(19)*	3.083D-13	3/2(6)	1.9376D+11	1.1573D+10
54.038	3/2(13)	1.392D-12	3/2(4)*	1.2681D+11	2.2380D+10
54.042	3/2(33)*	5.417D-13	3/2(7)	3.4167D+11	6.3240D+10
54.111	9/2(5)	3.444D-12	9/2(1)*	8.6189D+10	2.5587D+10
54.140	3/2(31)*	4.991D-13	3/2(6)	3.3883D+11	5.7301D+10
54.332	5/2(30)*	6.534D-13	3/2(5)	1.2532D+11	1.0262D+10
54.348	3/2(16)	1.159D-12	5/2(4)*	1.1923D+11	1.6476D+10
54.373	9/2(5)	3.444D-12	7/2(2)*	7.2652D+10	1.8180D+10
54.391	1/2(5)*	2.292D-12	1/2(1)	1.4561D+11	4.8591D+10
54.396	5/2(34)*	6.786D-13	3/2(7)	4.2199D+11	1.2084D+11
54.405	3/2(13)	1.392D-12	5/2(3)*	9.5858D+10	1.2789D+10
54.467	3/2(10)*	8.271D-13	1/2(2)	1.6251D+11	2.1845D+10
54.511	5/2(32)*	6.194D-13	5/2(6)	3.2312D+11	6.4666D+10
54.544	3/2(11)*	1.424D-12	3/2(3)	2.2167D+11	6.9988D+10

Continued...

Table 18 (contd)

λ	Upper	τ	Lower	A	A_{br}
54.586	9/2(3)	3.874D-12	7/2(1)*	1.9407D+11	1.4593D+11
54.733	7/2(9)*	1.193D-12	5/2(3)	3.7034D+11	1.6357D+11
54.746	1/2(15)*	5.950D-13	1/2(4)	5.8208D+11	2.0161D+11
54.930	5/2(9)	3.600D-12	3/2(2)*	1.3745D+11	6.8020D+10
54.979	11/2(2)	3.675D-12	11/2(1)*	1.4930D+11	8.1919D+10
55.056	5/2(29)*	8.646D-13	3/2(5)	1.3837D+11	1.6553D+10
55.244	7/2(24)*	4.288D-13	5/2(5)	6.4188D+11	1.7666D+11
55.328	1/2(18)*	1.534D-11	3/2(6)	2.6121D+10	1.0465D+10
55.350	3/2(33)*	5.417D-13	1/2(6)	8.3323D+11	3.7612D+11
55.385	7/2(6)	3.957D-12	5/2(1)*	1.6822D+11	1.1198D+11
55.501	3/2(9)	3.551D-12	3/2(2)*	9.8754D+10	3.4632D+10
55.553	3/2(23)*	6.927D-13	3/2(4)	8.2132D+11	4.6725D+11
55.563	5/2(22)*	7.991D-13	3/2(4)	1.1923D+11	1.1359D+10
55.574	3/2(31)*	4.991D-13	5/2(7)	2.3379D+11	2.7280D+10
55.581	5/2(10)*	1.273D-12	3/2(3)	2.1684D+11	5.9860D+10
55.608	7/2(24)*	4.288D-13	7/2(4)	6.5782D+11	1.8554D+11
55.664	7/2(25)*	8.108D-13	9/2(2)	1.9593D+11	3.1124D+10
55.700	1/2(6)	6.665D-13	1/2(1)*	1.4765D+12	1.4530D+12
55.706	7/2(25)*	8.108D-13	5/2(6)	2.0858D+11	3.5272D+10
55.780	7/2(7)*	9.844D-13	7/2(2)	3.2455D+11	1.0369D+11
55.878	5/2(10)	3.293D-12	3/2(3)*	1.7259D+11	9.8077D+10
55.988	5/2(8)*	1.610D-12	7/2(2)	1.2511D+11	2.5203D+10
56.071	5/2(30)*	6.534D-13	5/2(6)	5.7934D+11	2.1932D+11
56.103	1/2(15)*	5.950D-13	3/2(4)	8.4217D+11	4.2203D+11
56.106	3/2(9)	3.551D-12	1/2(2)*	7.2407D+10	1.8618D+10
56.141	5/2(29)*	8.646D-13	3/2(6)	1.5880D+11	2.1801D+10
56.294	11/2(1)	4.019D-12	9/2(1)*	1.8545D+11	1.3823D+11
56.375	5/2(23)*	1.690D-12	5/2(4)	2.4090D+11	9.8063D+10
56.490	1/2(20)*	3.872D-13	3/2(7)	1.9163D+12	1.4219D+12
56.491	1/2(17)*	9.747D-13	3/2(5)	2.6889D+11	7.0467D+10
56.655	5/2(23)*	1.690D-12	7/2(3)	8.4047D+10	1.1936D+10
56.656	1/2(13)*	8.376D-13	1/2(4)	6.7588D+11	3.8262D+11
56.662	3/2(23)*	6.927D-13	5/2(4)	4.7724D+11	1.5776D+11
56.672	5/2(22)*	7.991D-13	5/2(4)	5.2248D+11	2.1814D+11
56.678	9/2(4)	4.080D-12	9/2(1)*	7.0146D+10	2.0078D+10
56.701	3/2(30)*	7.235D-13	5/2(6)	9.1817D+11	6.0992D+11

Continued...

Table 18 (contd)

λ	Upper	τ	Lower	A	A_{br}
56.763	7/2(8)*	1.717D-12	5/2(3)	1.7079D+11	5.0073D+10
56.878	3/2(27)*	6.954D-13	3/2(5)	1.4771D+11	1.5172D+10
56.953	3/2(20)*	9.045D-13	1/2(4)	5.1127D+11	2.3644D+11
56.956	5/2(22)*	7.991D-13	7/2(3)	1.3853D+11	1.5334D+10
56.966	9/2(4)	4.080D-12	7/2(2)*	7.8988D+10	2.5458D+10
56.970	1/2(4)*	2.248D-12	1/2(1)	6.7303D+10	1.0183D+10
57.013	9/2(15)*	8.537D-13	9/2(2)	8.5822D+11	6.2882D+11
57.069	3/2(29)*	7.083D-13	3/2(6)	1.6456D+11	1.9181D+10
57.090	3/2(7)	1.066D-12	1/2(1)*	8.5705D+11	7.8294D+11
57.168	11/2(2)	3.675D-12	9/2(2)*	6.5935D+10	1.5977D+10
57.231	3/2(28)*	2.525D-13	3/2(5)	4.3705D+11	4.8222D+10
57.350	1/2(7)	3.946D-12	1/2(2)*	1.3330D+11	7.0110D+10
57.500	7/2(8)	2.408D-12	5/2(2)*	1.5389D+11	5.7035D+10
57.607	7/2(25)*	8.108D-13	7/2(5)	6.8339D+11	3.7864D+11
57.622	3/2(6)*	1.768D-12	1/2(1)	3.2935D+11	1.9181D+11
57.634	1/2(17)*	9.747D-13	3/2(6)	4.8647D+11	2.3066D+11
57.665	7/2(23)*	4.328D-13	5/2(5)	5.6933D+11	1.4030D+11
57.668	7/2(22)*	1.138D-12	7/2(4)	1.5740D+11	2.8185D+10
57.685	5/2(29)*	8.646D-13	5/2(7)	3.8621D+11	1.2895D+11
57.758	3/2(5)*	2.126D-12	3/2(1)	2.1706D+11	1.0017D+11
57.767	5/2(31)*	5.650D-13	7/2(5)	3.0688D+11	5.3206D+10
57.815	5/2(3)	1.406D-12	3/2(1)*	7.1135D+11	7.1135D+11
57.921	1/2(20)*	3.872D-13	1/2(6)	4.7090D+11	8.5867D+10
57.963	5/2(5)*	1.960D-12	7/2(1)	9.5587D+10	1.7904D+10
57.998	5/2(30)*	6.534D-13	7/2(5)	1.8487D+11	2.2332D+10
57.998	7/2(19)*	8.623D-13	5/2(4)	9.2199D+11	7.3303D+11
58.065	5/2(6)*	4.683D-12	3/2(2)	4.7429D+10	1.0534D+10
58.110	1/2(13)*	8.376D-13	3/2(4)	1.5260D+11	1.9505D+10
58.121	5/2(27)*	3.480D-13	3/2(5)	6.5751D+11	1.5043D+11
58.124	5/2(20)*	1.138D-12	3/2(4)	6.5727D+11	4.9140D+11
58.180	7/2(17)*	6.446D-13	7/2(3)	3.2532D+11	6.8218D+10
58.202	9/2(11)*	9.550D-13	7/2(3)	9.8795D+11	9.3208D+11
58.247	5/2(4)*	2.004D-12	3/2(1)	2.8332D+11	1.6089D+11
58.375	5/2(26)*	3.207D-13	5/2(5)	6.4098D+11	1.3175D+11
58.532	3/2(5)*	2.126D-12	1/2(1)	1.6945D+11	6.1049D+10
58.563	7/2(16)*	2.292D-12	7/2(3)	1.9831D+11	9.0124D+10

Continued...

Table 18 (contd)

λ	Upper	τ	Lower	A	A_{br}
58.563	5/2(33)*	8.442D-13	3/2(7)	2.4772D+11	5.1807D+10
58.665	3/2(29)*	7.083D-13	5/2(7)	2.3388D+11	3.8743D+10
58.686	1/2(6)*	1.447D-12	1/2(2)	6.1059D+11	5.3947D+11
58.700	3/2(3)	1.955D-12	3/2(1)*	5.1162D+11	5.1162D+11
58.705	9/2(14)*	3.931D-12	9/2(2)	8.7941D+10	3.0398D+10
58.748	3/2(26)*	2.969D-13	1/2(5)	4.3219D+11	5.5462D+10
58.773	3/2(10)*	8.271D-13	3/2(3)	6.7204D+11	3.7357D+11
58.983	3/2(16)	1.159D-12	1/2(5)*	3.0428D+11	1.0731D+11
59.000	3/2(13)*	7.255D-13	1/2(3)	6.8914D+11	3.4457D+11
59.007	1/2(11)	1.212D-12	1/2(5)*	2.8802D+11	1.0058D+11
59.037	5/2(4)*	2.004D-12	5/2(1)	1.8583D+11	6.9217D+10
59.053	9/2(15)*	8.537D-13	7/2(5)	1.9751D+11	3.3304D+10
59.331	5/2(27)*	3.480D-13	3/2(6)	1.8276D+11	1.1622D+10
59.469	7/2(22)*	1.138D-12	5/2(6)	1.1954D+11	1.6256D+10
59.481	7/2(4)*	1.746D-12	5/2(1)	5.0943D+11	4.5302D+11
59.483	1/2(16)*	2.912D-13	1/2(5)	3.1217D+11	2.8378D+10
59.565	3/2(15)	1.200D-12	1/2(5)*	1.2131D+11	1.7667D+10
59.636	1/2(9)*	8.194D-13	1/2(3)	8.5984D+11	6.0583D+11
59.650	3/2(20)*	9.045D-13	5/2(4)	1.1098D+11	1.1140D+10
59.687	3/2(10)*	8.271D-13	5/2(3)	1.9190D+11	3.0459D+10
59.740	9/2(2)*	1.405D-12	7/2(1)	7.0300D+11	6.9443D+11
59.786	7/2(21)*	2.160D-12	7/2(4)	8.8450D+10	1.6901D+10
59.816	9/2(3)*	1.893D-12	7/2(2)	2.6943D+11	1.3741D+11
60.022	5/2(8)*	1.610D-12	5/2(2)	2.1501D+11	7.4441D+10
60.034	1/2(4)*	2.248D-12	3/2(2)	3.5859D+11	2.8908D+11
60.100	9/2(3)*	1.893D-12	9/2(1)	2.0011D+11	7.5796D+10
60.104	3/2(32)*	3.111D-13	1/2(6)	3.9788D+11	4.9257D+10
60.141	9/2(13)*	1.441D-12	7/2(4)	4.9650D+11	3.5518D+11
60.216	3/2(8)*	3.144D-12	5/2(2)	2.8079D+11	2.4789D+11
60.339	5/2(32)*	6.194D-13	3/2(7)	6.5665D+11	2.6706D+11
60.343	5/2(17)	9.993D-13	3/2(7)*	2.3179D+11	5.3688D+10
60.436	5/2(5)*	1.960D-12	3/2(2)	3.3052D+11	2.1406D+11
60.561	7/2(5)*	5.013D-12	7/2(2)	5.3403D+10	1.4296D+10
60.701	11/2(7)*	2.133D-12	9/2(2)	4.0238D+11	3.4535D+11
60.759	3/2(6)*	1.768D-12	3/2(2)	1.4002D+11	3.4667D+10
60.822	7/2(23)*	4.328D-13	5/2(7)	2.5250D+11	2.7597D+10

Continued...

Table 18 (contd)

λ	Upper	τ	Lower	A	A_{br}
60.851	7/2(5)*	5.013D-12	9/2(1)	6.3659D+10	2.0315D+10
60.871	9/2(14)*	3.931D-12	7/2(5)	1.5484D+11	9.4240D+10
60.873	1/2(11)	1.212D-12	3/2(7)*	2.9438D+11	1.0507D+11
61.385	5/2(8)*	1.610D-12	3/2(3)	1.3031D+11	2.7343D+10
61.393	3/2(16)*	5.964D-12	1/2(4)	5.9575D+10	2.1168D+10
61.398	5/2(3)*	6.193D-12	3/2(1)	1.0764D+11	7.1746D+10
61.617	11/2(2)*	4.150D-12	9/2(1)	2.4097D+11	2.4097D+11
61.632	1/2(10)	1.085D-12	1/2(5)*	1.2030D+11	1.5696D+10
61.672	7/2(21)*	2.160D-12	9/2(2)	8.5132D+10	1.5657D+10
61.723	7/2(21)*	2.160D-12	5/2(6)	1.0959D+11	2.5943D+10
61.873	3/2(4)*	8.467D-12	3/2(1)	6.0669D+10	3.1165D+10
61.922	1/2(3)*	1.137D-11	3/2(1)	3.3117D+10	1.2465D+10
62.121	7/2(3)*	1.010D-11	7/2(1)	8.1611D+10	6.7254D+10
62.125	7/2(7)*	9.844D-13	5/2(3)	5.3816D+11	2.8510D+11
62.338	3/2(31)*	4.991D-13	1/2(6)	3.4036D+11	5.7820D+10
62.813	1/2(3)*	1.137D-11	1/2(1)	4.3759D+10	2.1762D+10
63.732	1/2(2)	3.073D-11	3/2(1)*	3.2132D+10	3.1726D+10
64.359	7/2(2)*	2.295D-11	7/2(1)	2.1171D+10	1.0287D+10
65.309	7/2(5)*	5.013D-12	5/2(2)	5.0372D+10	1.2720D+10
68.549	5/2(6)*	4.683D-12	3/2(3)	7.0953D+10	2.3576D+10
68.959	3/2(3)*	4.863D-11	5/2(1)	1.6542D+10	1.3306D+10
72.995	1/2(2)*	1.878D-11	1/2(1)	3.9217D+10	2.8877D+10
73.779	5/2(1)*	3.933D-11	7/2(1)	2.0393D+10	1.6356D+10
74.042	1/2(1)	5.086D-11	3/2(1)*	1.9617D+10	1.9572D+10

Table 19Energy levels (cm^{-1}) and lifetimes (s) in Pt^{42+} (Kr-like).

Occ	$J(\text{No})^P$	E	τ
4622400	0(1)	0	0.000D+00
4622310	0(1)*	1312243	0.000D+00
4622310	1(1)*	1355105	2.589D-10
4622310	3(1)*	1380234	4.007D-02
4622310	2(1)*	1389331	2.256D-03
4622301	4(1)*	1556039	1.611D-05
4622301	2(2)*	1576156	7.860D-06
4622301	3(2)*	1621434	7.499D-06
4622301	1(2)*	1743995	1.307D-12
4621410	2(3)*	2347564	5.853D-08
4621410	1(3)*	2504158	3.559D-13
4621401	2(4)*	2554074	5.812D-08
4621401	3(3)*	2577252	5.523D-08
4622220	0(2)	2671533	6.982D-11
4622220	1(1)	2700426	5.360D-11
4622220	2(1)	2715360	5.163D-11
4622220	3(1)	2720072	2.534D-10
4622220	4(1)	2744574	4.505D-10
4622220	2(2)	2773535	9.995D-11
4622220	2(3)	2823378	1.875D-10
4622220	0(3)	2887192	2.191D-09
4622211	4(2)	2894821	1.482D-10
4622211	2(4)	2909018	1.021D-10
4622211	5(1)	2913406	2.551D-10
4622211	3(2)	2914653	4.426D-11
4622211	3(3)	2932847	6.097D-11
4622211	4(3)	2938859	1.578D-10
4622211	1(2)	2941787	1.210D-11
4622211	5(2)	2949671	4.354D-10
4622211	2(5)	2954167	1.619D-11
4622211	6(1)	2966344	5.211D-04
4622211	3(4)	3019477	4.135D-11
4622211	1(3)	3049824	1.769D-12
4622211	2(6)	3056471	3.757D-11
4622211	0(4)	3066802	1.930D-12

Continued..

Table 19 (contd)

Occ	J(No) ^P	E	τ
4622211	3(5)	3073969	1.961D-12
4622211	4(4)	3075191	9.793D-09
4622211	2(7)	3075197	1.710D-12
4622211	1(4)	3075309	1.767D-10
4622211	1(5)	3118871	1.117D-12
4622211	3(6)	3119769	1.157D-12
4622202	6(2)	3120491	6.896D-06
4622211	4(6)	3123638	1.032D-12
4622202	4(5)	3131892	1.361D-11
4622202	2(8)	3133222	1.763D-12
4622211	2(9)	3153178	2.000D-12
4622202	3(7)	3195116	3.072D-12
4622202	5(3)	3201787	2.533D-12
4622202	4(7)	3270510	3.826D-12
4622202	2(10)	3293685	1.128D-10
4622202	1(6)	3297647	1.337D-12
4622202	4(8)	3306793	1.084D-12
4622202	2(11)	3336599	1.350D-12
4612410	1(7)	3338581	8.519D-13
4622202	3(8)	3347101	1.136D-12
4612410	2(12)	3347590	1.160D-12
4622202	0(5)	3370747	1.042D-09
4622202	2(13)	3389048	7.871D-13
4622202	0(6)	3497701	5.212D-13
4612401	3(9)	3497916	1.183D-12
4612401	2(14)	3557854	1.095D-12
4621320	1(8)	3563449	1.100D-12
4621320	2(15)	3591548	1.101D-12
4621320	3(10)	3623259	1.561D-12
4621320	4(9)	3648458	1.566D-12
4621311	2(16)	3838109	1.675D-11
4621320	1(9)	3841032	4.027D-13
4621311	3(11)	3851613	3.414D-11
4621311	4(10)	3876746	9.465D-12
4621320	2(18)	3888046	4.275D-13
4621311	2(17)	3889400	1.930D-11

Continued...

Table 19 (contd)

Occ	J(No) ^P	E	τ
4621320	0(7)	3892130	4.205D-13
4621311	1(10)	3897405	3.106D-12
4621311	5(4)	3900397	8.483D-11
4621311	3(12)	3902278	1.006D-11
4621320	1(11)	3925881	2.871D-13
4621311	0(8)	3928622	5.087D-13
4621320	3(13)	3934579	3.678D-13
4621311	4(11)	3940668	9.359D-11
4621311	2(19)	3941055	5.919D-13
4621311	6(3)	3945674	1.125D-07
4621311	3(14)	3946168	5.672D-13
4621320	2(20)	3948872	3.055D-13
4621311	1(12)	3954935	1.348D-12
4621311	4(12)	3959746	7.526D-12
4621311	5(5)	4001547	5.246D-12
4621302	5(6)	4064068	1.157D-12
4621311	4(13)	4069367	4.057D-13
4621311	3(16)	4072528	2.710D-13
4621311	2(21)	4079262	3.358D-13
4621311	2(23)	4087975	6.289D-13
4621311	1(13)	4088045	3.471D-13
4621302	3(17)	4103708	1.169D-12
4621302	2(22)	4109575	4.703D-12
4621302	4(14)	4111230	1.012D-12
4621311	3(15)	4113884	4.382D-13
4621311	3(20)	4117613	3.986D-13
4621302	3(18)	4121738	1.090D-12
4621302	5(7)	4125413	7.508D-13
4621302	3(19)	4128877	2.083D-12
4621311	2(24)	4140280	3.345D-13
4621302	6(4)	4140718	1.024D-07
4621302	1(14)	4161175	2.999D-12
4621302	5(8)	4175093	3.547D-11
4621311	1(15)	4175130	5.968D-13
4621302	4(16)	4175795	5.307D-12
4621302	0(9)	4175999	1.765D-11

Continued...

Table 19 (contd)

Occ	J(No) ^P	E	τ
4621311	4(15)	4176734	5.474D-13
4621311	1(17)	4242443	2.538D-13
4621302	3(21)	4242953	1.374D-12
4621302	1(16)	4243916	2.637D-11
4621302	4(17)	4263161	1.874D-12
4621302	2(25)	4278106	1.982D-11
4621311	0(10)	4292482	1.954D-13
4621311	2(26)	4307073	3.236D-13
4621302	1(18)	4323204	7.981D-13
4621302	3(22)	4358943	6.499D-13
4621311	2(27)	4361679	4.221D-13
4621302	2(28)	4389842	4.768D-13
4612320	1(4)*	4545710	1.354D-12
4612320	2(5)*	4546406	1.418D-12
4612320	0(2)*	4560017	1.322D-12
4612320	3(4)*	4593355	1.324D-12
4612320	4(2)*	4614239	1.338D-12
4612320	2(6)*	4647902	1.236D-12
4612320	1(5)*	4679550	6.872D-13
4612311	3(5)*	4679774	1.052D-12
4612320	3(6)*	4692646	8.638D-13
4612320	2(7)*	4708684	7.671D-13
4612311	5(1)*	4728777	1.450D-12
4612311	4(3)*	4745668	1.439D-12
4612311	6(1)*	4768818	1.518D-12
4612320	1(6)*	4771731	7.444D-13
4620420	2(29)	4782739	2.525D-13
4612311	2(8)*	4793487	1.119D-12
4612311	3(7)*	4822304	1.105D-12
4612311	4(4)*	4831568	1.247D-12
4612311	1(7)*	4845293	9.360D-13
4612311	2(10)*	4846094	9.373D-13
4612311	3(8)*	4852014	1.174D-12
4612311	2(9)*	4860312	1.135D-12
4612311	5(2)*	4868643	1.386D-12
4612311	4(5)*	4872787	1.233D-12

Continued...

Table 19 (contd)

Occ	J(No) ^P	E	τ
4612311	3(9)*	4874348	9.697D-13
4612311	1(8)*	4885921	8.016D-13
4612311	4(6)*	4891558	7.343D-13
4612311	3(10)*	4904350	6.934D-13
4612311	0(3)*	4908452	9.599D-13
4612311	5(3)*	4917032	7.406D-13
4612302	6(2)*	4927778	1.587D-12
4612311	2(11)*	4930496	6.366D-13
4612311	4(7)*	4943465	7.566D-13
4612311	3(11)*	4950911	7.916D-13
4612311	2(12)*	4951588	7.786D-13
4612311	1(9)*	4963079	7.763D-13
4612311	2(14)*	4971936	5.472D-13
4620420	0(11)	4978878	1.739D-13
4612311	1(10)*	4982329	6.380D-13
4612311	0(4)*	5001645	5.028D-13
4612302	4(8)*	5007265	1.245D-12
4612302	5(4)*	5010879	1.069D-12
4612311	2(13)*	5022713	5.951D-13
4612302	3(12)*	5025636	9.185D-13
4620411	3(23)	5029705	3.920D-13
4612311	3(13)*	5043639	4.834D-13
4620411	2(30)	5050301	4.020D-13
4612302	1(11)*	5051506	5.594D-13
4620411	1(19)	5062147	4.231D-13
4612302	1(12)*	5073348	6.083D-13
4612302	4(9)*	5097525	9.604D-13
4620411	4(18)	5099139	5.659D-13
4612302	5(5)*	5099372	6.793D-13
4612302	2(15)*	5099941	9.405D-13
4612302	3(14)*	5108522	6.583D-13
4612302	4(10)*	5133802	5.946D-13
4612302	2(16)*	5136874	1.129D-12
4612302	0(5)*	5145728	1.270D-12
4620402	4(19)	5159417	1.099D-11
4620402	2(31)	5177556	4.425D-11

Continued...

Table 19 (contd)

Occ	J(No) ^P	E	τ
4612302	3(16)*	5178017	5.174D-13
4612302	3(15)*	5187816	6.698D-13
4612302	2(17)*	5206058	5.876D-13
4612302	1(13)*	5214532	7.199D-13
4612302	2(18)*	5257444	4.744D-13
4612302	1(14)*	5259540	5.109D-13
4620402	0(12)	5260213	5.983D-12
4611420	2(19)*	5492233	4.618D-13
4611420	3(17)*	5596154	4.465D-13
4611420	0(6)*	5741506	2.698D-13
4611411	3(18)*	5763943	6.136D-13
4611411	2(20)*	5772443	6.778D-13
4611411	1(15)*	5772702	6.422D-13
4611411	4(11)*	5802153	6.729D-13
4611420	1(16)*	5803913	2.919D-13
4611420	1(17)*	5806696	2.031D-13
4611420	2(21)*	5821142	2.077D-13
4611411	5(6)*	5893681	6.131D-13
4611411	4(12)*	5911651	6.112D-13
4611411	3(19)*	5922980	5.905D-13
4611402	4(13)*	5928635	5.522D-13

Table 20Transitions in Pt^{42+} (Kr-like).

λ	Upper	τ	Lower	A	A_{br}
35.718	0(6)*	2.699D-13	1(2)	1.9662D+11	1.0432D+10
36.284	0(12)	5.985D-12	1(3)*	1.6680D+11	1.6651D+11
37.840	1(12)	1.348D-12	0(1)*	1.9398D+11	5.0728D+10
38.146	3(21)	1.374D-12	3(2)*	8.9282D+10	1.0952D+10
38.171	4(16)	5.307D-12	4(1)*	7.1383D+10	2.7043D+10
38.182	5(8)	3.549D-11	4(1)*	2.8179D+10	2.8179D+10
38.202	2(27)	4.221D-13	1(2)*	7.2878D+11	2.2421D+11
38.261	1(11)	2.871D-13	0(1)*	4.8533D+11	6.7637D+10
38.464	1(12)	1.348D-12	1(1)*	1.6579D+11	3.7054D+10
38.554	2(20)	3.055D-13	1(1)*	8.4092D+11	2.1601D+11
38.671	2(19)	5.919D-13	1(1)*	3.3330D+11	6.5753D+10
38.727	4(19)	1.100D-11	3(3)*	8.5082D+10	7.9624D+10
38.772	1(18)	7.981D-13	1(2)*	1.5027D+11	1.8022D+10
38.857	0(8)	5.087D-13	1(1)*	1.9298D+12	1.8945D+12
38.920	5(7)	7.508D-13	4(1)*	1.3319D+12	1.3319D+12
38.931	2(20)	3.055D-13	3(1)*	8.6175D+11	2.2685D+11
38.972	3(14)	5.672D-13	3(1)*	1.3223D+12	9.9176D+11
38.977	1(12)	1.348D-12	2(1)*	3.7543D+11	1.9002D+11
39.016	2(26)	3.236D-13	1(2)*	1.5211D+12	7.4868D+11
39.050	2(19)	5.919D-13	3(1)*	7.2213D+11	3.0866D+11
39.070	2(20)	3.055D-13	2(1)*	1.5680D+12	7.5108D+11
39.111	3(14)	5.672D-13	2(1)*	3.6832D+11	7.6947D+10
39.134	4(15)	5.474D-13	3(2)*	1.7991D+12	1.7717D+12
39.136	4(14)	1.012D-12	4(1)*	4.6288D+11	2.1674D+11
39.149	4(16)	5.307D-12	3(2)*	4.4233D+10	1.0384D+10
39.149	3(13)	3.678D-13	3(1)*	2.1183D+12	1.6503D+12
39.189	2(19)	5.919D-13	2(1)*	5.6300D+11	1.8761D+11
39.239	0(10)	1.954D-13	1(2)*	3.6573D+12	2.6135D+12
39.289	3(13)	3.678D-13	2(1)*	5.2615D+11	1.0181D+11
39.405	3(15)	4.382D-13	2(2)*	2.2165D+12	2.1526D+12
39.416	0(7)	4.205D-13	1(1)*	2.3763D+12	2.3745D+12
39.424	1(11)	2.871D-13	2(1)*	2.8287D+12	2.2977D+12
39.472	2(22)	4.703D-12	2(2)*	1.3414D+11	8.4622D+10
39.545	1(9)	4.027D-13	0(1)*	7.7838D+11	2.4398D+11
39.564	3(17)	1.169D-12	2(2)*	1.0414D+11	1.2674D+10

Continued...

Table 20 (contd)

λ	Upper	τ	Lower	A	A_{br}
39.650	3(12)	1.007D-11	3(1)*	3.7835D+10	1.4408D+10
39.653	4(18)	5.659D-13	3(3)*	1.7640D+12	1.7611D+12
39.701	2(24)	3.345D-13	3(2)*	2.9616D+12	2.9338D+12
39.738	3(16)	2.710D-13	4(1)*	3.5552D+12	3.4258D+12
39.788	4(13)	4.057D-13	4(1)*	2.4349D+12	2.4056D+12
39.811	1(13)	3.471D-13	2(2)*	2.8285D+12	2.7770D+12
39.812	2(23)	6.289D-13	2(2)*	6.1525D+11	2.3807D+11
39.856	1(17)*	2.031D-13	1(6)	2.9713D+11	1.7929D+10
39.871	1(10)	3.106D-12	2(1)*	2.7693D+11	2.3819D+11
39.871	1(19)	4.231D-13	2(4)*	2.3605D+12	2.3574D+12
39.872	5(6)	1.157D-12	4(1)*	8.6442D+11	8.6442D+11
39.875	2(18)	4.275D-13	3(1)*	1.8317D+12	1.4344D+12
39.881	3(19)	2.083D-12	3(2)*	2.3261D+11	1.1269D+11
39.934	1(3)*	3.559D-13	0(1)	2.8097D+12	2.8097D+12
39.950	2(21)	3.358D-13	2(2)*	2.6573D+12	2.3710D+12
39.995	3(18)	1.090D-12	3(2)*	5.0880D+11	2.8216D+11
40.021	2(18)	4.275D-13	2(1)*	4.0144D+11	6.8900D+10
40.025	1(17)	2.538D-13	1(2)*	3.0489D+12	2.3589D+12
40.060	2(30)	4.020D-13	2(4)*	1.9343D+12	1.5040D+12
40.061	3(20)	3.986D-13	3(2)*	1.8338D+12	1.3403D+12
40.164	4(14)	1.012D-12	3(2)*	5.2179D+11	2.7542D+11
40.226	1(9)	4.027D-13	1(1)*	1.5779D+12	1.0026D+12
40.249	2(21)*	2.077D-13	2(11)	5.6803D+11	6.7002D+10
40.286	3(17)	1.169D-12	3(2)*	4.3693D+11	2.2309D+11
40.394	3(23)	3.920D-13	2(4)*	9.1853D+11	3.3076D+11
40.409	0(11)	1.739D-13	1(3)*	5.6557D+12	5.5614D+12
40.428	2(21)*	2.077D-13	2(12)	1.3398D+12	3.7274D+11
40.436	2(30)	4.020D-13	3(3)*	4.9820D+11	9.9766D+10
40.517	1(17)*	2.031D-13	1(7)	1.1615D+12	2.7399D+11
40.562	1(16)*	2.919D-13	1(7)	4.2514D+11	5.2753D+10
40.665	1(17)*	2.031D-13	2(12)	4.9783D+11	5.0332D+10
40.711	1(16)*	2.919D-13	2(12)	4.4717D+11	5.8361D+10
40.776	3(23)	3.920D-13	3(3)*	1.6240D+12	1.0340D+12
40.891	5(5)	5.246D-12	4(1)*	1.9062D+11	1.9062D+11
40.919	0(6)*	2.699D-13	1(6)	3.4628D+11	3.2359D+10
41.065	2(29)	2.525D-13	2(3)*	1.8943D+12	9.0609D+11

Continued...

Table 20 (contd)

λ	Upper	τ	Lower	A	A_{br}
41.118	0(9)	1.766D-11	1(2)*	3.5981D+10	2.2859D+10
41.140	4(13)*	5.522D-13	3(9)	3.2122D+11	5.6984D+10
41.602	4(12)	7.527D-12	4(1)*	1.0704D+11	8.6238D+10
41.616	0(6)*	2.699D-13	1(7)	1.4040D+12	5.3193D+11
42.621	3(12)	1.007D-11	4(1)*	3.6725D+10	1.3575D+10
42.656	5(4)	8.492D-11	4(1)*	1.1776D+10	1.1776D+10
43.090	4(10)	9.466D-12	4(1)*	7.2441D+10	4.9675D+10
43.887	2(29)	2.525D-13	1(3)*	2.0368D+12	1.0476D+12
44.087	4(9)	1.566D-12	3(1)*	6.3847D+11	6.3843D+11
44.421	1(8)	1.100D-12	0(1)*	6.3848D+11	4.4834D+11
44.473	3(17)*	4.465D-13	2(12)	2.4364D+11	2.6504D+10
44.714	2(15)	1.101D-12	1(1)*	6.8386D+11	5.1475D+11
44.764	3(10)	1.561D-12	2(1)*	5.7534D+11	5.1669D+11
45.283	1(8)	1.100D-12	1(1)*	2.2299D+11	5.4689D+10
45.409	2(15)	1.101D-12	2(1)*	1.3689D+11	2.0625D+10
46.433	2(19)*	4.618D-13	1(7)	3.7457D+11	6.4790D+10
47.921	3(12)*	9.189D-13	4(3)	1.4072D+11	1.8195D+10
48.230	2(8)*	1.119D-12	3(1)	1.5210D+11	2.5890D+10
48.268	1(7)*	9.364D-13	2(2)	2.2203D+11	4.6159D+10
48.911	5(4)*	1.069D-12	6(1)	2.0397D+11	4.4477D+10
49.093	2(12)*	7.788D-13	3(2)	1.2501D+11	1.2171D+10
49.337	0(5)*	1.271D-12	1(5)	1.0782D+11	1.4775D+10
49.350	1(7)	8.519D-13	0(1)*	3.4234D+11	9.9846D+10
49.448	4(9)*	9.611D-13	4(4)	1.1335D+11	1.2348D+10
49.469	2(11)*	6.368D-13	2(4)	2.5918D+11	4.2775D+10
49.488	3(19)*	5.907D-13	3(12)	3.6109D+11	7.7015D+10
49.720	4(12)*	6.114D-13	5(4)	1.2804D+11	1.0024D+10
49.763	3(10)*	6.936D-13	4(2)	2.4779D+11	4.2588D+10
49.800	1(5)*	6.873D-13	0(2)	2.0863D+11	2.9915D+10
49.885	3(17)*	4.465D-13	2(15)	1.9054D+11	1.6210D+10
50.045	1(6)*	7.444D-13	2(2)	5.1892D+11	2.0045D+11
50.059	2(11)*	6.368D-13	3(3)	7.5146D+11	3.5958D+11
50.082	4(6)*	7.345D-13	4(2)	2.5509D+11	4.7795D+10
50.156	4(7)*	7.568D-13	5(2)	2.6010D+11	5.1198D+10
50.167	2(7)*	7.671D-13	2(1)	1.9955D+11	3.0547D+10
50.189	2(12)	1.160D-12	1(1)*	1.1135D+11	1.4386D+10

Continued...

Table 20 (contd)

λ	Upper	τ	Lower	A	A_{br}
50.259	3(10)*	6.936D-13	3(2)	2.2777D+11	3.5985D+10
50.286	2(7)*	7.671D-13	3(1)	4.7823D+11	1.7544D+11
50.381	3(14)*	6.586D-13	4(6)	2.3731D+11	3.7088D+10
50.417	1(7)	8.519D-13	1(1)*	3.3313D+11	9.4542D+10
50.446	3(19)*	5.907D-13	4(11)	3.2926D+11	6.4036D+10
50.462	2(14)	1.096D-12	2(2)*	1.3966D+11	2.1373D+10
50.527	1(5)*	6.873D-13	1(1)	4.5731D+11	1.4373D+11
50.534	5(5)*	6.796D-13	6(2)	6.6834D+11	3.0357D+11
50.552	4(6)*	7.345D-13	5(1)	5.2377D+11	2.0150D+11
50.591	3(14)*	6.586D-13	4(5)	2.3262D+11	3.5635D+10
50.687	3(17)*	4.465D-13	3(10)	3.8821D+11	6.7290D+10
50.736	4(12)*	6.114D-13	4(11)	4.0679D+11	1.0117D+11
50.830	5(3)*	7.407D-13	5(2)	1.8610D+11	2.5652D+10
50.830	2(12)	1.160D-12	3(1)*	4.5335D+11	2.3847D+11
50.846	2(15)*	9.412D-13	2(8)	1.7249D+11	2.8003D+10
50.848	0(3)*	9.602D-13	1(2)	4.7232D+11	2.1422D+11
50.878	3(10)*	6.936D-13	4(3)	3.9501D+11	1.0823D+11
50.912	1(5)*	6.873D-13	2(1)	3.2300D+11	7.1700D+10
50.936	3(19)*	5.907D-13	4(12)	3.5963D+11	7.6395D+10
50.946	1(16)*	2.919D-13	1(9)	2.1444D+11	1.3421D+10
50.971	1(14)*	5.110D-13	1(6)	2.1981D+11	2.4688D+10
51.028	3(5)*	1.052D-12	3(1)	9.9477D+10	1.0413D+10
51.115	2(11)	1.350D-12	3(1)*	1.5642D+11	3.3037D+10
51.248	2(9)*	1.135D-12	2(4)	2.0165D+11	4.6160D+10
51.264	5(3)*	7.407D-13	6(1)	6.4470D+11	3.0787D+11
51.302	1(7)	8.519D-13	2(1)*	2.7567D+11	6.4740D+10
51.315	2(13)*	5.953D-13	3(5)	4.0238D+11	9.6385D+10
51.325	1(6)*	7.444D-13	2(3)	3.3623D+11	8.4158D+10
51.333	3(6)*	8.638D-13	4(1)	5.0950D+11	2.2424D+11
51.335	5(6)*	6.132D-13	6(3)	9.8334D+11	5.9292D+11
51.343	3(17)*	4.465D-13	4(9)	9.7630D+11	4.2558D+11
51.367	2(15)*	9.412D-13	2(9)	1.9824D+11	3.6988D+10
51.396	2(9)*	1.135D-12	3(2)	1.0640D+11	1.2853D+10
51.437	1(8)*	8.019D-13	1(2)	2.9676D+11	7.0623D+10
51.497	3(9)	1.183D-12	4(1)*	5.4196D+11	3.4742D+11
51.500	2(16)*	1.130D-12	3(7)	1.3148D+11	1.9525D+10

Continued...

Table 20 (contd)

λ	Upper	τ	Lower	A	A_{br}
51.617	3(8)*	1.175D-12	3(2)	3.1350D+11	1.1544D+11
51.624	2(10)*	9.377D-13	2(4)	1.2922D+11	1.5656D+10
51.642	2(14)	1.096D-12	3(2)*	2.1406D+11	5.0205D+10
51.646	1(7)*	9.364D-13	2(4)	4.1089D+11	1.5809D+11
51.674	3(5)*	1.052D-12	4(1)	2.8205D+11	8.3710D+10
51.690	1(15)*	6.423D-13	2(16)	4.7019D+11	1.4199D+11
51.697	2(20)*	6.779D-13	2(16)	2.0495D+11	2.8474D+10
51.743	1(11)*	5.596D-13	1(5)	2.0375D+11	2.3229D+10
51.745	2(6)*	1.237D-12	2(1)	1.6839D+11	3.5063D+10
51.746	1(10)*	6.381D-13	1(3)	4.7329D+11	1.4295D+11
51.757	2(12)*	7.788D-13	3(4)	1.2463D+11	1.2097D+10
51.759	4(10)*	5.946D-13	5(3)	6.8474D+11	2.7881D+11
51.766	1(8)*	8.019D-13	2(5)	2.9051D+11	6.7679D+10
51.775	3(11)*	7.918D-13	3(4)	2.8381D+11	6.3780D+10
51.846	2(19)*	4.618D-13	1(8)	5.5706D+11	1.4330D+11
51.881	3(7)*	1.106D-12	4(2)	3.8043D+11	1.6002D+11
51.882	2(9)*	1.135D-12	3(3)	1.2566D+11	1.7927D+10
51.937	4(11)*	6.729D-13	4(10)	1.6667D+11	1.8694D+10
51.979	3(13)*	4.835D-13	3(6)	2.3624D+11	2.6982D+10
51.999	4(5)*	1.234D-12	5(2)	4.8070D+11	2.8503D+11
52.004	1(14)*	5.110D-13	2(11)	3.3783D+11	5.8317D+10
52.060	1(13)*	7.202D-13	2(10)	5.2442D+11	1.9806D+11
52.061	2(20)*	6.779D-13	3(11)	3.4648D+11	8.1379D+10
52.078	3(9)*	9.702D-13	2(5)	4.1448D+11	1.6667D+11
52.079	1(12)*	6.084D-13	2(9)	5.8837D+11	2.1062D+11
52.083	3(13)*	4.835D-13	4(6)	6.5823D+11	2.0947D+11
52.107	3(6)*	8.638D-13	2(2)	1.3327D+11	1.5342D+10
52.111	5(2)*	1.387D-12	5(2)	2.4994D+11	8.6636D+10
52.130	1(11)*	5.596D-13	2(8)	6.4603D+11	2.3353D+11
52.133	4(4)*	1.248D-12	5(1)	2.3097D+11	6.6565D+10
52.157	3(15)*	6.700D-13	4(7)	2.9390D+11	5.7877D+10
52.168	1(13)*	7.202D-13	1(6)	1.8219D+11	2.3906D+10
52.196	1(16)*	2.919D-13	2(18)	1.3666D+12	5.4509D+11
52.263	3(14)*	6.586D-13	3(7)	1.9869D+11	2.5997D+10
52.270	3(8)*	1.175D-12	4(3)	2.1593D+11	5.4768D+10
52.292	3(18)*	6.137D-13	3(11)	2.2190D+11	3.0218D+10

Continued...

Table 20 (contd)

λ	Upper	τ	Lower	A	A_{br}
52.347	2(18)*	4.746D-13	3(8)	5.1266D+11	1.2473D+11
52.353	4(12)*	6.114D-13	5(5)	4.3283D+11	1.1453D+11
52.402	1(6)	1.337D-12	2(1)*	1.2103D+11	1.9580D+10
52.449	1(9)*	7.765D-13	2(6)	1.4648D+11	1.6661D+10
52.462	2(9)*	1.135D-12	2(5)	1.2128D+11	1.6698D+10
52.465	1(5)*	6.873D-13	2(2)	1.4099D+11	1.3662D+10
52.513	2(10)*	9.377D-13	1(2)	2.7578D+11	7.1314D+10
52.565	4(9)*	9.611D-13	3(7)	2.9573D+11	8.4052D+10
52.568	5(2)*	1.387D-12	6(1)	1.7553D+11	4.2732D+10
52.583	4(11)*	6.729D-13	5(4)	7.4152D+11	3.7002D+11
52.613	2(19)*	4.618D-13	2(15)	4.9774D+11	1.1440D+11
52.618	0(6)*	2.699D-13	1(9)	1.0425D+12	2.9327D+11
52.688	2(14)*	5.473D-13	3(5)	3.7875D+11	7.8509D+10
52.699	5(5)*	6.796D-13	5(3)	2.8759D+11	5.6209D+10
52.722	2(14)*	5.473D-13	2(7)	2.8721D+11	4.5146D+10
52.735	1(9)*	7.765D-13	0(4)	1.8168D+11	2.5632D+10
52.750	4(9)*	9.611D-13	5(3)	1.3987D+11	1.8803D+10
52.767	2(12)*	7.788D-13	2(6)	2.3461D+11	4.2868D+10
52.794	4(2)*	1.338D-12	3(1)	1.1558D+11	1.7879D+10
52.795	3(15)*	6.700D-13	2(10)	1.2865D+11	1.1089D+10
52.805	3(12)*	9.189D-13	4(5)	3.3309D+11	1.0195D+11
52.834	4(4)*	1.248D-12	4(3)	2.9015D+11	1.0504D+11
52.850	5(6)*	6.132D-13	5(5)	3.2881D+11	6.6294D+10
52.899	5(4)*	1.069D-12	6(2)	3.1198D+11	1.0405D+11
52.973	1(9)*	7.765D-13	1(4)	3.7741D+11	1.1061D+11
52.989	3(18)*	6.137D-13	4(10)	5.5595D+11	1.8968D+11
53.006	2(21)*	2.077D-13	3(13)	2.3024D+11	1.1008D+10
53.042	2(7)*	7.671D-13	2(3)	3.6924D+11	1.0459D+11
53.063	1(6)*	7.444D-13	0(3)	2.6709D+11	5.3104D+10
53.094	3(7)*	1.106D-12	4(3)	1.2054D+11	1.6065D+10
53.098	1(15)*	6.423D-13	2(17)	1.8083D+11	2.1002D+10
53.113	0(4)*	5.028D-13	1(5)	9.8091D+11	4.8383D+11
53.163	3(15)*	6.700D-13	4(8)	1.6298D+11	1.7798D+10
53.168	1(17)*	2.031D-13	1(11)	6.1465D+11	7.6724D+10
53.189	2(21)*	2.077D-13	2(19)	2.3812D+11	1.1775D+10
53.224	2(8)*	1.119D-12	3(2)	3.4445D+11	1.3277D+11

Continued...

Table 20 (contd)

λ	Upper	τ	Lower	A	A_{br}
53.248	3(4)*	1.324D-12	2(1)	1.8908D+11	4.7344D+10
53.250	1(13)*	7.202D-13	2(11)	1.2618D+11	1.1465D+10
53.278	3(11)*	7.918D-13	3(5)	1.3838D+11	1.5162D+10
53.291	3(9)	1.183D-12	3(2)*	2.5865D+11	7.9132D+10
53.297	2(12)*	7.788D-13	1(4)	1.5780D+11	1.9393D+10
53.313	3(11)*	7.918D-13	2(7)	2.2192D+11	3.8996D+10
53.323	4(8)*	1.245D-12	4(5)	3.6980D+11	1.7028D+11
53.332	2(20)*	6.779D-13	1(10)	1.9710D+11	2.6335D+10
53.334	2(21)*	2.077D-13	3(14)	6.1937D+11	7.9663D+10
53.346	3(18)*	6.137D-13	2(17)	1.3507D+11	1.1196D+10
53.351	2(6)*	1.237D-12	2(2)	3.8031D+11	1.7885D+11
53.357	1(4)*	1.354D-12	0(2)	2.2744D+11	7.0061D+10
53.361	2(11)*	6.368D-13	2(6)	1.8479D+11	2.1745D+10
53.382	3(4)*	1.324D-12	3(1)	3.6758D+11	1.7893D+11
53.406	3(12)*	9.189D-13	2(9)	1.0994D+11	1.1105D+10
53.411	2(21)*	2.077D-13	2(20)	4.3564D+11	3.9410D+10
53.416	4(6)*	7.345D-13	3(4)	1.4973D+11	1.6467D+10
53.441	3(16)*	5.174D-13	4(8)	6.0718D+11	1.9075D+11
53.471	2(20)*	6.779D-13	3(12)	2.1502D+11	3.1341D+10
53.486	4(2)*	1.338D-12	4(1)	5.3442D+11	3.8227D+11
53.505	2(19)*	4.618D-13	3(10)	4.3599D+11	8.7777D+10
53.522	2(18)*	4.746D-13	2(13)	6.6312D+11	2.0869D+11
53.525	4(7)*	7.568D-13	4(4)	5.7435D+11	2.4964D+11
53.601	1(17)*	2.031D-13	2(19)	4.9653D+11	5.0069D+10
53.632	4(13)*	5.522D-13	5(6)	7.0700D+11	2.7604D+11
53.668	4(10)*	5.946D-13	4(7)	5.7836D+11	1.9891D+11
53.775	0(2)*	1.322D-12	1(1)	6.3458D+11	5.3244D+11
53.794	2(17)*	5.877D-13	3(8)	2.2605D+11	3.0031D+10
53.803	0(3)*	9.602D-13	1(3)	2.3723D+11	5.4039D+10
53.826	1(17)*	2.031D-13	2(20)	2.5571D+11	1.3279D+10
53.835	2(27)	4.221D-13	1(3)*	6.1248D+11	1.5836D+11
53.874	1(5)*	6.873D-13	2(3)	1.7190D+11	2.0310D+10
53.991	2(14)*	5.473D-13	3(6)	2.9046D+11	4.6173D+10
54.029	4(3)*	1.439D-12	4(2)	1.5852D+11	3.6160D+10
54.090	3(4)*	1.324D-12	4(1)	8.7302D+10	1.0093D+10
54.110	0(5)*	1.271D-12	1(6)	3.1309D+11	1.2458D+11

Continued...

Table 20 (contd)

λ	Upper	τ	Lower	A	A_{br}
54.172	2(5)*	1.418D-12	1(1)	2.1053D+11	6.2851D+10
54.236	1(13)*	7.202D-13	0(5)	3.5321D+11	8.9850D+10
54.254	2(16)*	1.130D-12	2(10)	3.7137D+11	1.5578D+11
54.277	4(11)*	6.729D-13	4(12)	2.2631D+11	3.4466D+10
54.294	5(3)*	7.407D-13	4(4)	1.3735D+11	1.3973D+10
54.341	3(15)*	6.700D-13	2(12)	1.8012D+11	2.1738D+10
54.473	2(28)	4.768D-13	2(4)*	6.1888D+11	1.8263D+11
54.527	5(1)*	1.450D-12	4(2)	1.3819D+11	2.7690D+10
54.551	0(3)*	9.602D-13	1(4)	1.6495D+11	2.6127D+10
54.577	4(3)*	1.439D-12	5(1)	1.1047D+11	1.7562D+10
54.596	1(15)*	6.423D-13	2(19)	1.2669D+11	1.0309D+10
54.603	2(20)*	6.779D-13	2(19)	1.3994D+11	1.3274D+10
54.614	2(5)*	1.418D-12	2(1)	1.1530D+11	1.8851D+10
54.615	4(3)*	1.439D-12	3(2)	1.2108D+11	2.1097D+10
54.617	3(16)*	5.174D-13	3(8)	1.3957D+11	1.0080D+10
54.629	3(12)*	9.189D-13	3(7)	1.0992D+11	1.1101D+10
54.634	1(4)*	1.354D-12	2(1)	3.3776D+11	1.5451D+11
54.661	1(8)*	8.019D-13	2(6)	1.3447D+11	1.4500D+10
54.718	1(15)	5.968D-13	2(3)*	1.5362D+12	1.4085D+12
54.746	2(10)*	9.377D-13	3(4)	2.0653D+11	3.9995D+10
54.754	2(5)*	1.418D-12	3(1)	2.2917D+11	7.4470D+10
54.809	2(6)*	1.237D-12	2(3)	9.9234D+10	1.2177D+10
54.834	4(7)*	7.568D-13	3(6)	1.4873D+11	1.6740D+10
54.971	6(1)*	1.519D-12	5(2)	1.4127D+11	3.0307D+10
54.994	2(12)*	7.788D-13	2(8)	1.2774D+11	1.2708D+10
55.013	1(15)*	6.423D-13	1(12)	2.2584D+11	3.2759D+10
55.024	4(13)*	5.522D-13	4(14)	2.8531D+11	4.4953D+10
55.077	0(6)*	2.699D-13	1(11)	2.0547D+11	1.1392D+10
55.085	5(1)*	1.450D-12	5(1)	4.7428D+11	3.2618D+11
55.131	2(14)	1.096D-12	1(2)*	5.2768D+11	3.0510D+11
55.139	1(14)	2.999D-12	2(3)*	3.1083D+11	2.8973D+11
55.160	2(13)	7.871D-13	2(2)*	3.1005D+11	7.5665D+10
55.170	2(28)	4.768D-13	3(3)*	1.3410D+12	8.5741D+11
55.322	2(27)	4.221D-13	2(4)*	5.6321D+11	1.3390D+11
55.332	6(2)*	1.588D-12	6(2)	4.5826D+11	3.3340D+11
55.336	0(5)*	1.271D-12	1(7)	1.4611D+11	2.7130D+10

Continued...

Table 20 (contd)

λ	Upper	τ	Lower	A	A_{br}
55.346	4(3)*	1.439D-12	4(3)	1.8142D+11	4.7365D+10
55.466	2(26)	3.236D-13	1(3)*	9.9640D+11	3.2127D+11
55.479	6(1)*	1.519D-12	6(1)	4.5736D+11	3.1767D+11
55.544	3(9)*	9.702D-13	3(5)	1.2456D+11	1.5053D+10
55.547	2(16)*	1.130D-12	2(11)	1.0868D+11	1.3340D+10
55.605	2(12)*	7.788D-13	2(9)	1.2062D+11	1.1332D+10
55.760	5(3)*	7.407D-13	4(6)	1.6831D+11	2.0984D+10
55.786	5(5)*	6.796D-13	4(8)	2.6545D+11	4.7888D+10
55.833	3(8)	1.136D-12	4(1)*	1.0699D+11	1.3002D+10
55.898	3(16)*	5.174D-13	2(13)	1.9521D+11	1.9716D+10
55.918	0(10)	1.954D-13	1(3)*	1.3911D+12	3.7810D+11
56.024	3(5)*	1.052D-12	4(2)	1.0762D+11	1.2188D+10
56.040	2(27)	4.221D-13	3(3)*	2.7682D+11	3.2348D+10
56.126	3(22)	6.499D-13	3(3)*	1.4246D+12	1.3189D+12
56.138	3(19)	2.083D-12	2(3)*	2.0543D+11	8.7896D+10
56.239	2(8)	1.763D-12	1(1)*	1.8295D+11	5.8995D+10
56.364	3(18)	1.090D-12	2(3)*	3.4035D+11	1.2625D+11
56.403	2(9)	2.000D-12	3(1)*	9.6931D+10	1.8790D+10
56.467	3(8)	1.136D-12	2(2)*	2.2552D+11	5.7767D+10
56.496	3(20)	3.986D-13	2(3)*	4.9971D+11	9.9523D+10
56.525	1(18)	7.981D-13	2(4)*	9.7039D+11	7.5156D+11
56.694	2(9)	2.000D-12	2(1)*	3.5754D+11	2.5565D+11
56.697	1(5)	1.117D-12	1(1)*	5.6453D+11	3.5612D+11
56.740	1(7)	8.519D-13	2(2)*	1.9228D+11	3.1497D+10
56.759	1(14)*	5.110D-13	0(6)	3.0023D+11	4.6059D+10
56.804	2(11)	1.350D-12	2(2)*	2.9159D+11	1.1480D+11
56.825	3(6)*	8.638D-13	3(3)	1.3546D+11	1.5851D+10
56.943	3(17)	1.169D-12	2(3)*	2.1775D+11	5.5407D+10
57.022	0(6)	5.212D-13	1(2)*	1.9178D+12	1.9168D+12
57.045	2(26)	3.236D-13	2(4)*	2.7917D+11	2.5220D+10
57.118	4(8)	1.084D-12	4(1)*	5.8926D+11	3.7634D+11
57.129	4(9)*	9.611D-13	3(8)	1.6846D+11	2.7275D+10
57.243	3(5)*	1.052D-12	3(3)	1.4976D+11	2.3598D+10
57.306	5(2)*	1.387D-12	4(6)	1.0748D+11	1.6019D+10
57.340	1(2)*	1.307D-12	0(1)	7.6525D+11	7.6525D+11
57.343	2(8)	1.763D-12	2(1)*	2.7795D+11	1.3618D+11

Continued...

Table 20 (contd)

λ	Upper	τ	Lower	A	A_{br}
57.359	4(6)	1.032D-12	3(1)*	9.6458D+11	9.6046D+11
57.458	2(23)	6.289D-13	2(3)*	7.8091D+11	3.8353D+11
57.459	5(4)*	1.069D-12	4(7)	9.7152D+10	1.0090D+10
57.528	1(17)	2.538D-13	1(3)*	8.2516D+11	1.7278D+11
57.551	1(3)	1.769D-12	0(1)*	4.4787D+11	3.5475D+11
57.645	1(12)*	6.084D-13	1(7)	1.5413D+11	1.4453D+10
57.789	3(6)	1.157D-12	2(1)*	8.2146D+11	7.8059D+11
57.819	1(5)	1.117D-12	2(1)*	2.4958D+11	6.9607D+10
57.932	2(12)	1.160D-12	3(2)*	1.8653D+11	4.0373D+10
57.938	6(2)*	1.588D-12	5(3)	1.1545D+11	2.1161D+10
57.946	1(12)*	6.084D-13	2(12)	4.6571D+11	1.3195D+11
57.949	3(8)	1.136D-12	3(2)*	5.1443D+11	3.0058D+11
58.089	1(6)	1.337D-12	2(2)*	5.3377D+11	3.8086D+11
58.136	2(7)	1.710D-12	1(1)*	4.9859D+11	4.2509D+11
58.303	2(11)	1.350D-12	3(2)*	2.2867D+11	7.0602D+10
58.312	1(11)*	5.596D-13	2(11)	1.4428D+11	1.1648D+10
58.327	4(7)	3.826D-12	4(1)*	1.4997D+11	8.6039D+10
58.422	0(4)	1.930D-12	1(1)*	5.1721D+11	5.1620D+11
58.543	2(17)*	5.877D-13	3(9)	9.0929D+11	4.8590D+11
58.581	3(13)*	4.835D-13	2(11)	1.7410D+11	1.4655D+10
58.686	0(4)*	5.028D-13	1(6)	2.9548D+11	4.3902D+10
58.688	1(11)*	5.596D-13	2(12)	1.4979D+11	1.2554D+10
58.765	1(14)*	5.110D-13	2(14)	6.9883D+11	2.4954D+11
58.838	2(18)*	4.746D-13	2(14)	5.3773D+11	1.3723D+11
58.961	3(13)*	4.835D-13	2(12)	3.9552D+11	7.5633D+10
59.041	3(5)	1.961D-12	3(1)*	4.8905D+11	4.6891D+11
59.175	3(15)*	6.700D-13	3(9)	2.4545D+11	4.0367D+10
59.211	3(21)	1.374D-12	2(4)*	5.8161D+11	4.6477D+11
59.315	4(17)	1.874D-12	3(3)*	4.3005D+11	3.4661D+11
59.335	4(8)	1.084D-12	3(2)*	2.5257D+11	6.9140D+10
59.378	2(13)*	5.953D-13	1(7)	2.8862D+11	4.9589D+10
59.520	3(16)*	5.174D-13	3(9)	5.3976D+11	1.5074D+11
59.697	2(13)*	5.953D-13	2(12)	3.2559D+11	6.3108D+10
60.130	0(4)*	5.028D-13	1(7)	5.9622D+11	1.7875D+11
60.223	1(3)	1.769D-12	2(1)*	1.0460D+11	1.9349D+10
60.438	3(13)*	4.835D-13	2(13)	1.4773D+11	1.0551D+10

Continued...

Table 20 (contd)

λ	Upper	τ	Lower	A	A_{br}
60.640	4(7)	3.826D-12	3(2)*	9.5920D+10	3.5199D+10
60.763	5(3)	2.533D-12	4(1)*	3.9481D+11	3.9481D+11
60.788	2(13)	7.871D-13	1(2)*	7.4712D+11	4.3936D+11
60.837	1(10)*	6.381D-13	1(7)	2.2194D+11	3.1434D+10
61.010	3(7)	3.073D-12	4(1)*	1.3670D+11	5.7415D+10
61.129	4(10)*	5.946D-13	3(9)	2.3686D+11	3.3361D+10
61.172	1(10)*	6.381D-13	2(12)	1.9155D+11	2.3415D+10
61.224	2(14)*	5.473D-13	1(7)	3.6598D+11	7.3304D+10
61.367	1(2)	1.210D-11	0(1)*	5.9494D+10	4.2827D+10
61.722	3(16)*	5.174D-13	2(14)	2.5503D+11	3.3652D+10
61.768	3(7)	3.073D-12	2(2)*	1.7094D+11	8.9775D+10
62.557	4(16)	5.307D-12	3(3)*	7.1728D+10	2.7305D+10
63.535	2(5)	1.619D-11	3(1)*	3.4788D+10	1.9591D+10
64.488	3(14)*	6.586D-13	2(14)	1.2528D+11	1.0336D+10
66.205	4(5)	1.361D-11	3(2)*	2.9731D+10	1.2033D+10
75.963	0(2)	6.982D-11	1(1)*	1.3872D+10	1.3437D+10
76.272	1(1)	5.360D-11	2(1)*	1.5225D+10	1.2425D+10

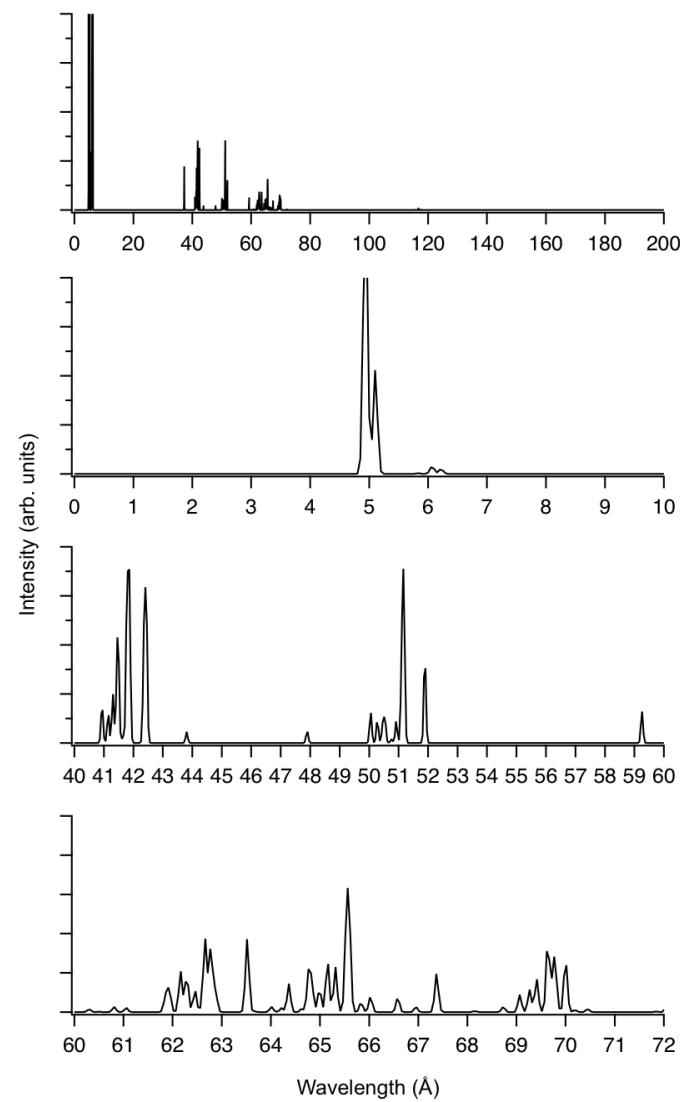


Fig. 1: Synthetic spectra of Pt^{50+} (Ni-like).

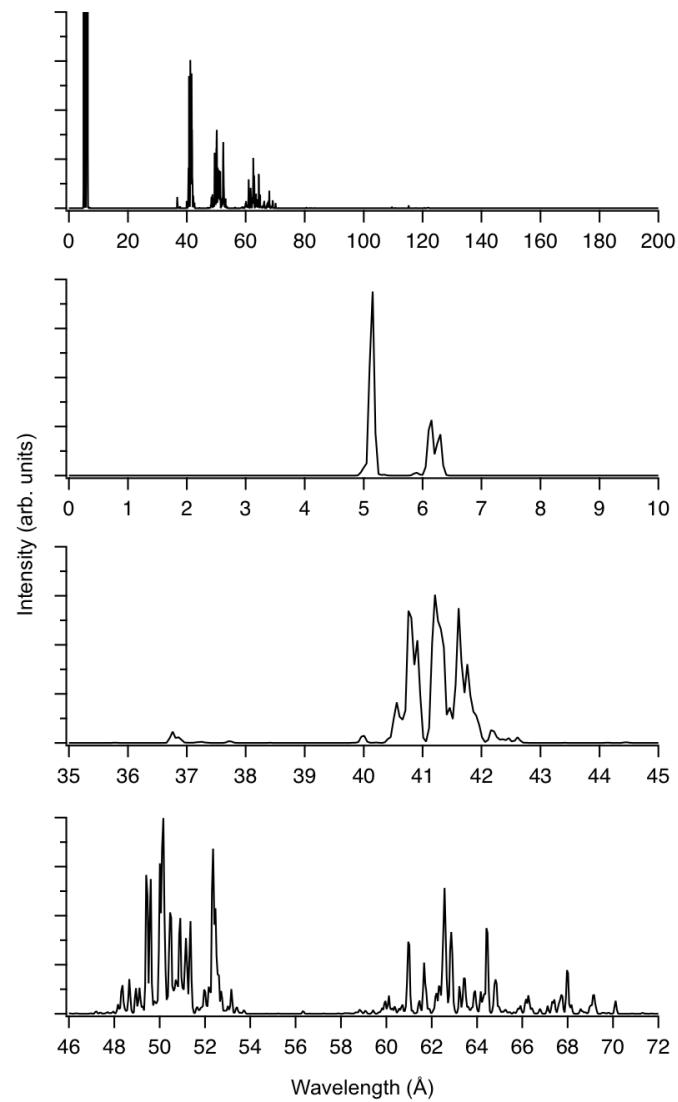


Fig. 2: Synthetic spectra of Pt^{49+} (Cu-like).

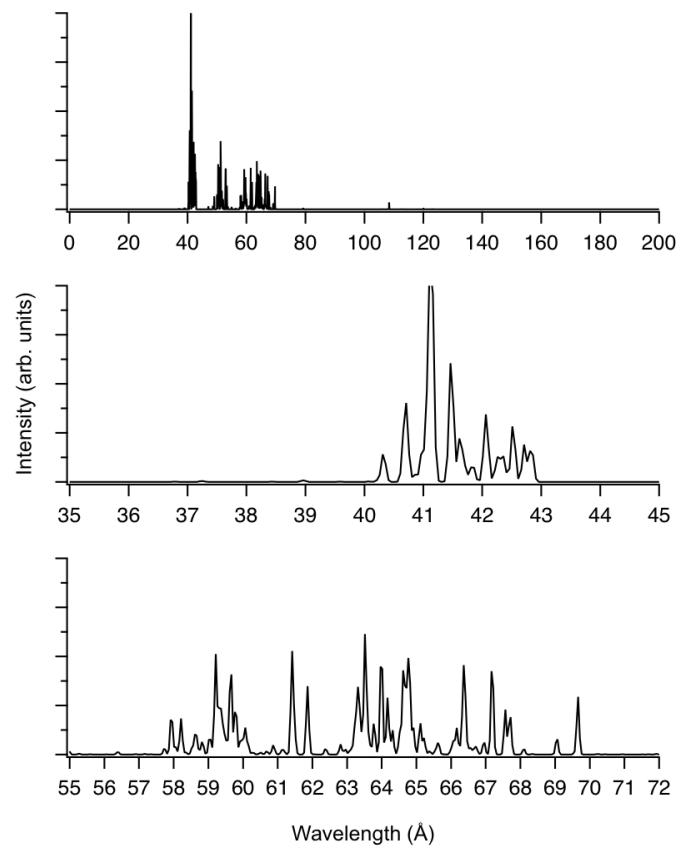


Fig. 3: Synthetic spectra of Pt^{48+} (Zn-like).

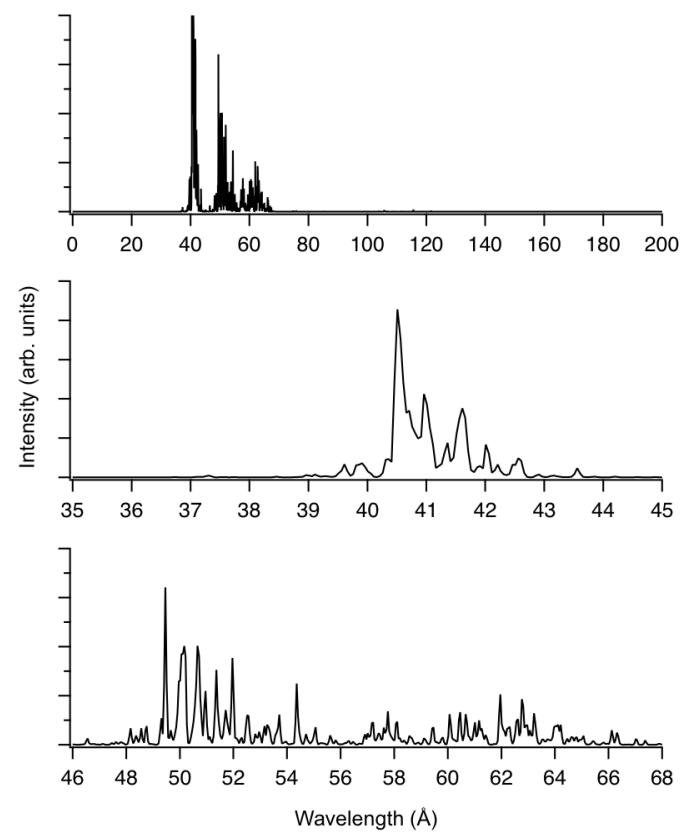


Fig. 4: Synthetic spectra of Pt^{47+} (Ga-like).

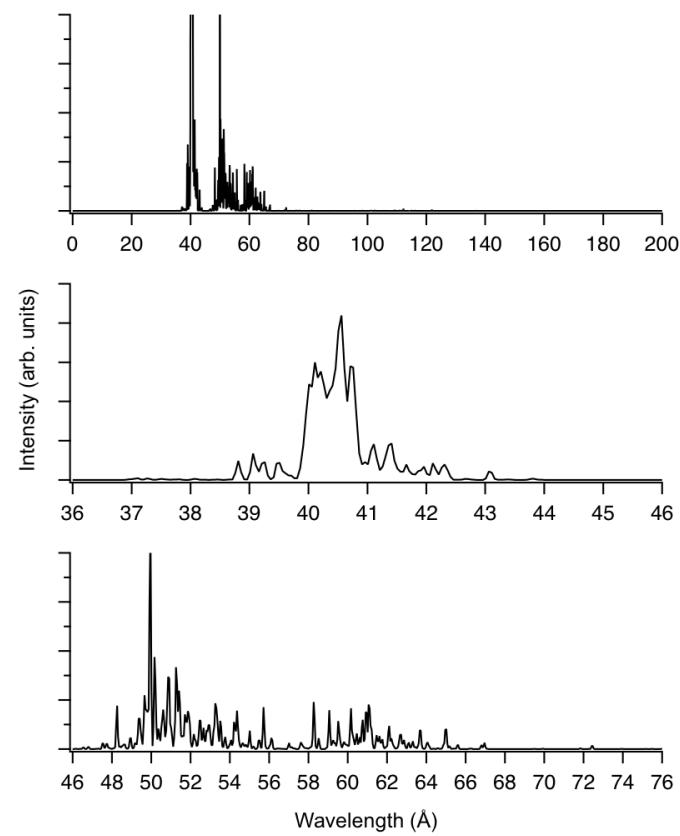


Fig. 5: Synthetic spectra of Pt^{46+} (Ge-like).

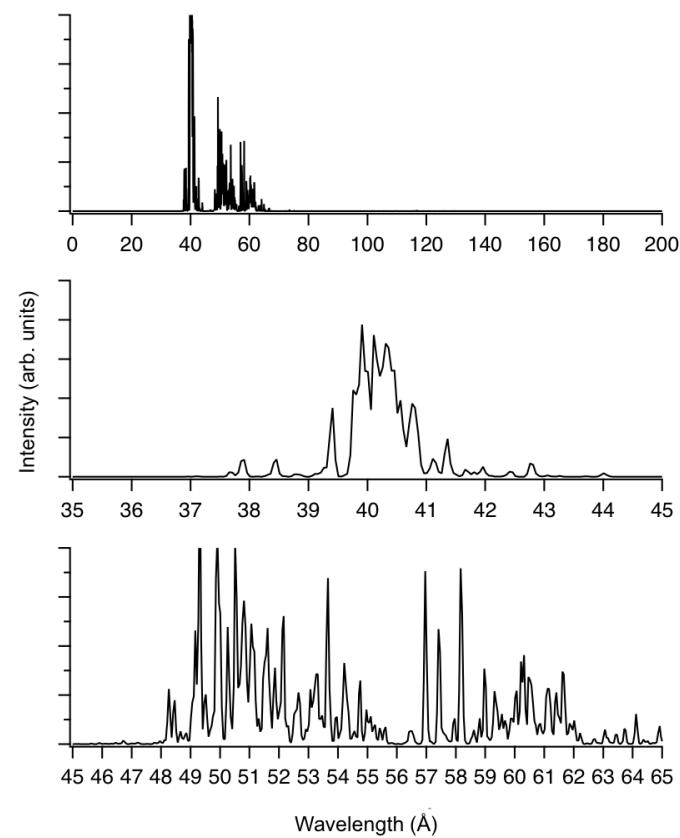


Fig. 6: Synthetic spectra of Pt^{45+} (As-like).

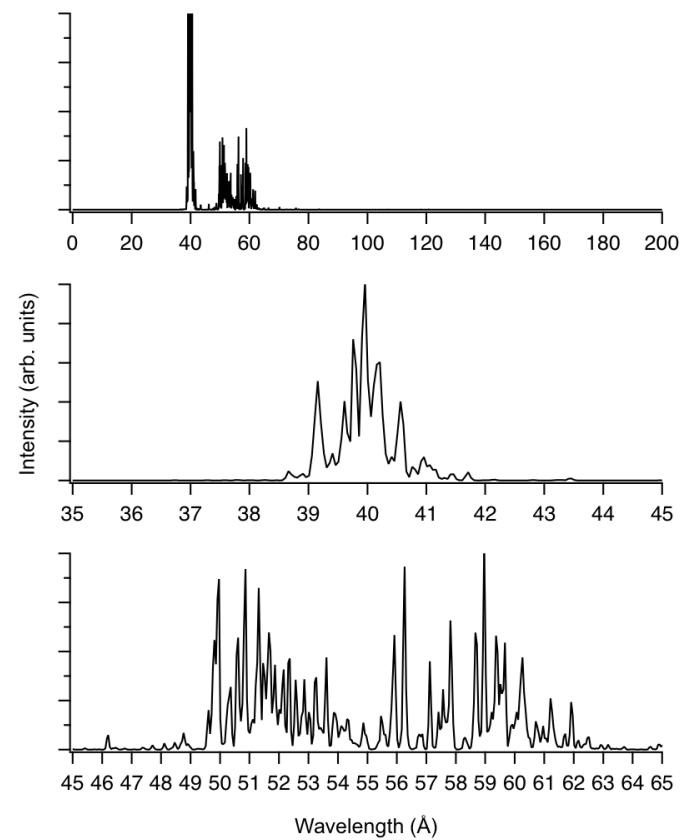


Fig. 7: Synthetic spectra of Pt^{44+} (Se-like).

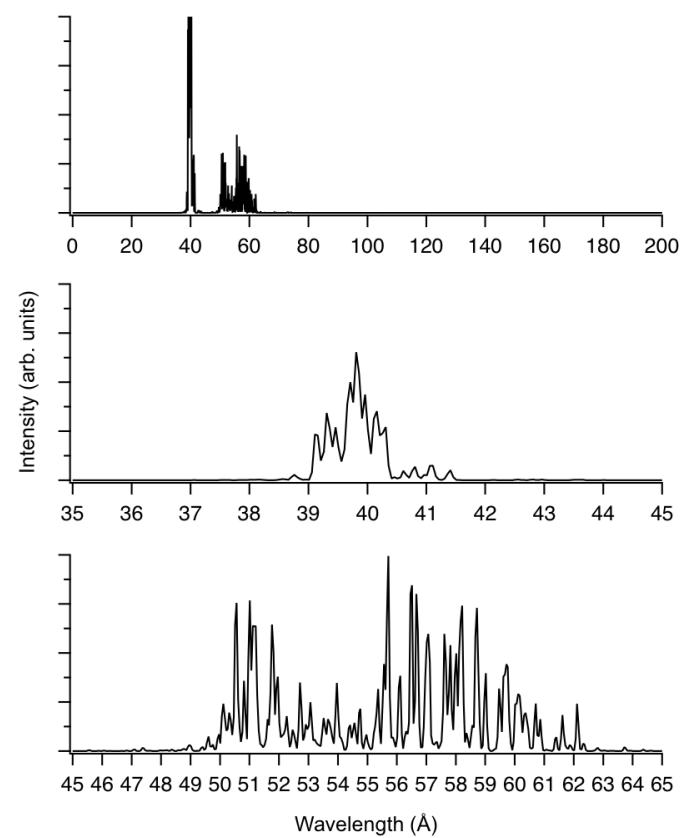


Fig. 8: Synthetic spectra of Pt^{43+} (Br-like).

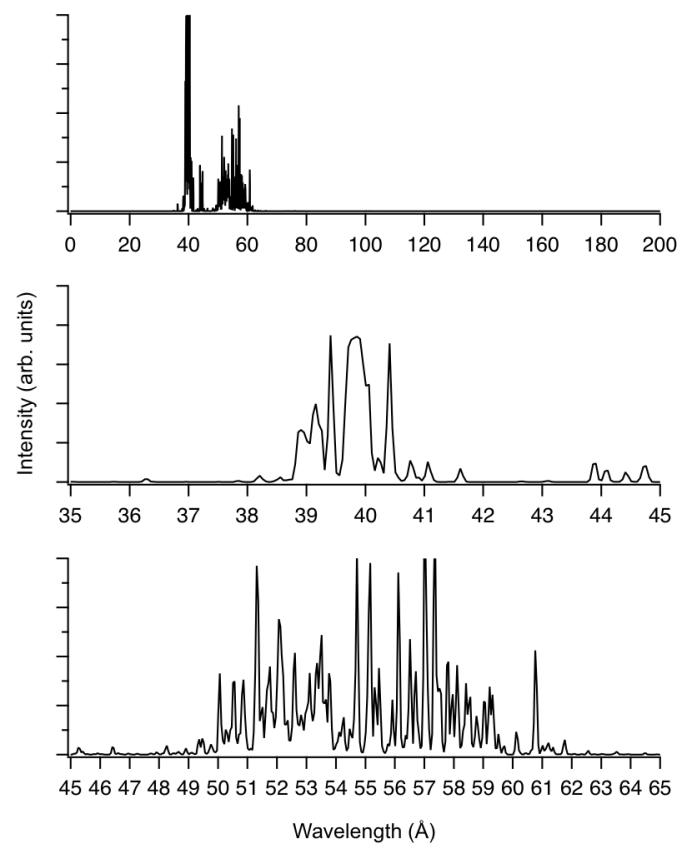


Fig. 9: Synthetic spectra of Pt^{42+} (Kr-like).